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ABSTRACT

Population growth in central Florida has increased the need for continuing education for trauma nurses. A project was undertaken in 1974 to develop a comprehensive continuing education program on trauma nursing for registered nurses that can be a prototype for the state, and to implement the program in Orange, Seminole, and Osceola counties. Operational objectives were to: (1) develop a central organization and management unit that will plan and give direction to the project as well as organize, coordinate, and evaluate the project activities; (2) develop a modular curriculum of 80 hours on trauma nursing; (3) plan and implement activities for a minimum of three trauma nursing programs in the three counties, to enroll at least 45 nurses; (4) develop testing and evaluation tools for the curriculum and the overall program; and (5) conduct an ongoing evaluation of the program. An extensive progress report is provided. A bibliography is included. (MSE)

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Trauma Nursing

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PROGRESS REPORT
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No. 318 9/19/75

October 1, 1974 to August 31, 1975

Valencia Community College

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VALENCIA COMMUNITY COLLEGE

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM GRANT #318

October 1, 1974 to August 31, 1975

Prepared by:
Joyce J. Dorner, R.N., M.N.
Project Coordinator

This work was supported by the Florida Regional Medical Program under Title IV of the Public Health Act; however, the findings and conclusions reported herein do not necessarily represent the views of the PUBLIC HEALTH SERVICE.

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PART I

THE PROJECT DEFINED

RATIONALE FOR THE PROJECT

Central Florida is experiencing a population growth second to none in the nation. Growth brings with it many benefits. However, it also brings with it the problems of the metropolis; namely crime, public welfare, and the need for improved health services. A social equation may thereby be formulated: people equal accidents and the need for health care.

The Registered Nurse has long been in the forefront of the delivery of health care services, and the nurses employed in trauma areas (Emergency Room, Intensive Care Unit, Coronary Care Unit, and Industry) are without exception. Of the approximately 2,000 nurses employed in Orange, Osceola, and Seminole Counties, 65 per cent are employed in trauma areas. Theory and skills relevant to this specialization in nursing go beyond that of most generic educational programs. Whereas continuing education for nurses in other areas of specialization has been implemented, the Trauma Nurse, and Emergency Room Nurses in particular, have had minimal programs available to meet their continuing educational needs.

APPROACH TO PROJECT

Having identified this problem, local professionals in the District #8, Florida Nurses Association and Valencia Community College submitted a request for funding of a project to meet these continuing education needs through the Florida Regional Medical Program. Funding was awarded for the period of October 1, 1974 to August 31, 1975.

The central objective as stated in the final agreement was to:

> develop a comprehensive continuing education program on trauma nursing for registered nurses that can be a prototype for the state and to implement the program in the Central Florida counties, Orange, Seminole, and Osceola.

Operational objectives were to:

- Develop a central organization and management unit that will, among other functions, plan and give direction to the project as well as organize, coordinate, and evaluate the project activities.
- Develop a modular concept curriculum of 80 hours on trauma nursing to increase knowledge and skills of the professional nurse in the delivery of emergency nursing care.
- Plan and implement activities needed to conduct a minimum of three (3) trauma nursing programs within the three (3) counties that would improve the knowledge and skills of at least 45 registered nurses.
- Develop testing and evaluation tools for curriculum and over-all program.
- Conduct an on-going evaluation of the program to determine the effectiveness, cost, and needed resources.

ACTIVITIES UNDERTAKEN TO MEET OBJECTIVES

The specific activities called for by the contract were as follows:

During the period October 1, 1974 to December 31, 1974:

- Employ a Project Coordinator and Secretary as project staff.
- Recruit and employ an Educational Coordinator on a contractual basis.
- Select and appoint a Steering Committee with representatives from community hospitals, County Medical Society, Valencia Community College Department of Nursing, FNA District #8 Continuing Education Committee, and nursing experts in the field of trauma nursing. Responsibilities of this Steering Committee include: assisting to develop a specific plan of action to accomplish the objectives, advising on curriculum content and format, and assisting the project staff to review teaching materials, modules, and evaluation process.
- Collect and review resource materials related to the various aspects of trauma nursing which will be required in order to develop the content of the program.
- Obtain copy of Emergency Medical Technician II modular curriculum presently in use in the State of Florida for use as a modular concept reference.
- Develop project operational protocol to include:
    - Record and reports system.
    - Flow chart of activities for conduct of project.
    - Publicity mechanism for recruitment of "students".
    - "Student" selection mechanism (criteria).
    - Instructor selection mechanism (criteria).
- Convene the Steering Committee to review this agreement, evaluate the operational protocol, recommend curriculum content for Trauma Nursing, and recommend criteria for selection of instructors.
- Develop the modular curriculum on Trauma Nursing to be implemented in February, 1975 (upon the concurrence

of FRMP, the Steering Committee, the FNA District #8 Continuing Education Committee, and FRMP consultants).

- Develop a program evaluation tool; i.e., overall program evaluation including facilities, instructors, and clinical experience.

- Develop publicity formats for brochures, newspaper, radio, FNA, and hospital bulletins.

- Submit draft of modular curriculum, publicity formats, and evaluation tool to Steering Committee members for review and comment.

During the period January 1, 1975 to March 31, 1975:

- Convene Steering Committee to discuss modular curriculum, publicity formats, evaluation tool, and make recommendations for changes.

- Revise modular curriculum, publicity formats, evaluation tool, incorporating any Steering Committee recommendations.

- Submit modular curriculum and publicity formats for review and concurrence to FRMP, FNA District #8, Continuing Education Committee, and FRMP consultants.

- Convene instructional participants, instructors, hospital clinical personnel, and others for the purpose of providing them with an overview of the program, study protocol, and their responsibilities for course implementation and coordination.

- Upon the approval of the above, conduct the following activities:

    - Recruitment and selection of "students".

    - Obtain teaching films and other aids for course.

    - Finalize coordination of classroom and clinical facilities, instructor arrangements, etc.

    - Submit to each instructor a detailed outline for his lecture.

    - Prepare needed handout materials for course.

- Evaluate the curriculum through conduct of Trauma Nursing course for no less than fifteen (15) registered nurses.

During the period April 1, 1975 through June 30, 1975:

- Initiate evaluation process on Trauma Nursing program to include: "student" pre-test and post-test, clinical practice, instruction, and total program; i.e., publicity, cost analysis, facilities, and equipment.
- Convene the Steering Committee to discuss results of evaluation and recommended program changes needed to improve the program.
- Submit results of evaluation and recommended program changes to FRMP, FNA District #8, Continuing Education Committee, and FRMP consultants for review and recommendations.
- Revise curriculum and evaluation tools based on results of evaluation and Steering Committee recommendations.
- Upon the approval of FRMP, conduct the following activities for no less than two (2) Trauma Nursing programs:
  - Recruitment and selection of students.
  - Obtain teaching films and other aids for course.
  - Finalize coordination of classroom and clinical facilities, instructor arrangements, etc.
  - Submit to each instructor a detailed outline for his lecture.
  - Prepare needed handout materials for course.
- Conduct two (2) Trauma Nursing programs for no less than fifteen (15) registered nurses and conduct one (1) of the two programs in Seminole and Osceola Counties.

During the period of July 1, 1975 through August 30, 1975:

- Initiate evaluation process on Trauma Nursing program(s) to include: "student" pre-test and post-test, clinical practice, instruction, and total program; i.e., publicity, cost analysis, facilities, and equipment.
- Submit results of evaluation and recommended program changes to FRMP, Steering Committee, FNA District #8, Continuing Education Committee, and FRMP consultants for review and recommendation.

- Upon the approval of the above, conduct the following activities:
    - Recruitment and selection of "students".
    - Obtain teaching films and other aids for course.
    - Finalize coordination of classroom and clinical facilities, instructor arrangements, etc.
    - Submit to each instructor a detailed outline of his lecture.
    - Prepare needed handout material for course.
- Conduct a Trauma Nursing program for no less than fifteen (15) registered nurses (in Seminole or Osceola Counties).
- Initiate evaluation process on Trauma Nursing program(s) to include: "student" pre-test and post-test, clinical practice, instruction, and total program; i.e., publicity, cost analysis, facilities, and equipment.
- Prepare a draft copy of an overall project report and include findings and recommendations, and submit copy to Steering Committee members for review and critque prior to meeting.
- Convene Steering Committee to discuss final draft report, final modular curriculum, and make recommendations for change.
- Prepare final report and modular curriculum. (Distribution approval will be provided by FRMP).

PART II

REVIEW AND SUMMARY OF OPERATIONAL OBJECTIVES

OBJECTIVE I

The following is stated in the final agreement with the Florida Regional Medical Program:

> Develop a central organization and management unit that will, among other functions, plan and give direction to the project as well as organize, coordinate, and evaluate the project activities.

PROJECT STAFF

Following the employment of a Project Coordinator on a one-quarter time basis (nine hours per week), the first activities relative to the above objective included the hiring of other project staff. A secretary was hired on a half-time basis. (Job description and curriculum vitae may be found in the Appendix.)

An Educational Coordinator was selected on a half-time salary. Selection was made on the criteria of previous experience relevant to the curriculum to be developed, as well as teaching experience. (Job description and curriculum vitae may be found in the Appendix.)

STEERING COMMITTEE

Steering Committee members were appointed to serve the course of the project contract period. Representatives were sought to represent:

- Florida Nurses Association District #8, Continuing Education Committee
- The County Medical Society
- Valencia Community College, Department of Nursing
- hospital administrators
- hospital in-service departments
- experts in the field of trauma nursing
- consumers

Committee members were charged with:

- assisting to develop a specific plan of action to accomplish the objectives
- advising on curriculum content and format
- assisting the project staff to review teaching materials, modules and evaluation process

RESOURCE MATERIALS

Materials were selected from numerous sources. The curriculums of those courses already in existence were examined. These included:

- "Emergency Department Nursing Course" - a two-part college credit course offered as part of the B.S.N. curriculum of the University of San Diego, an extension of the University of California.

- "Trauma Nurse Nursing Program" - an advanced post-graduate course that the State of Illinois has developed and is based at the Cook County Hospital School. It is part of the Illinois Division of Emergency Medical Services.

- "Emergency Nursing Course" - a pilot project in Miami under a grant awarded to the Emergency Department Nurses Association from the Florida Department of Health and Rehabilitative Services.

Textbooks found to be helpful in the curriculum development included:

Brunner, Lillian, R.N., M.S. and Doris Suddarth, R.N., M.S.N. The Lippincott Manual of Nursing Practice. Philadelphia: The J. B. Lippincott Co., 1974.

Condon, Robert, M.D., Editor. Manual of Surgical Therupeutics. Boston: Little, Brown & Co., 1969.

Eckert, Charles, M.D., Editor. Emergency Room Care. Boston: Little, Brown & Co., 1971.

Findeiss, Clifford. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974.

Sharpe, John, M.D. and F. Marx, M.D. Management of Medical Emergencies. New York: McGraw Hill Book Co., 1969.

Periodicals were reviewed and the following were helpful:

Emergency Medicine

Nursing '75

American Journal of Nursing

Film catalogs were reviewed and several films selected for previewing. Other resource materials may be found in the Bibliography

PROJECT OPERATIONAL PROTOCOL

Record and Reports System. Record items were identified that would be essential and helpful for reference during the course of the project. Reports that would be required during the project were identified and the filing system was established based on the above. A list of those items appears in the Appendix.

Flow Chart of Activities for Conduct of the Project. Activities to be undertaken during the contract period were listed, and a time table for initiation and completion of the activities was made. This provided a most effective tool in giving direction to the project as well as to organize, coordinate, and evaluate the project activities. (See Appendix for reference to the Flow Chart.) The dates set for each of the four courses were:

March 3 - March 14, 1975
April 7 - April 18, 1975
May 5 - May 16, 1975
July 7 - July 18, 1975

Publicity Mechanism for Recruitment of Students. The following mechanisms for course publicity were selected and formats for each were written:

- brochure
- individual course flyer
- television, radio
- newspaper

Professional publications and "in-house" mechanisms were also recommended, with formats to be selected upon request of the project staff. Deadlines were set for each of the formats based on the dates of the courses, and a distribution list for mailing was completed. (Copies of the publicity formats appear in the Appendix.)

Student Selection Mechanism (Criteria). Criteria for student selection was established with the intent of providing those nurses employed in trauma care areas the first opportunity to enroll in the course. It was also the intent of these criteria to provide the course to representatives of as many agencies as possible. The criteria for student selection was:

- Must be a registered nurse with evidence of current active Florida registration.
- Preference given to R.N.'s employed in ER, ICU, CCU, and Industry.
- Selection will be made without preference to race, color, and/or creed.
- Selection made on first registered, first selected basis when second criteria listed is met.

- If the course for which the student seeks selection is filled, the student will be placed on the priority list for a subsequent course.
- Written confirmation will be sent to each applicant. If confirmation is to the negative, the date of the next course will be given and the student requested to notify the project staff by the registration deadline date if she/he plans to attend.
- Applications will be sent to all those seeking registration information by phone, with consideration given according to date of receipt of application.
- Registration will be closed three (3) weeks prior to course initiation.
- Other considerations: Not more than two (2) nurses from each facility will be registered for each course unless the student first meets the criteria and space is available.

Faculty Selection Mechanism (Criteria). Criteria for faculty was as follows:

- Selection will be made without preference to race, color, and/or creed.
- Instructor will be educationally and/or experientially qualified for lecture topic.
- Instructor shall be able to demonstrate theoretical and/or clinical expertise in area of topic presentation.
- Instructor shall be able to demonstrate ability to present lecture material in a clear and concise manner.
- Instructor must agree to follow detailed outline for his/her presentation.
- Instructor will understand that a curriculum vitae will be required for administrative purposes.
- Instructor must agree to accept the consultant fee according to the provisions of the project.
- Instructor must be available on the date presentation is to be given.
- Instructor will understand that his/her lecture will be evaluated.

Input of recommendations for the course initial faculty came from representatives on the Steering Committee.

SUMMARY

Objective I of the contract was successfully completed. Those activities which were found most essential included:

- Selection of a Steering Committee with individual members committed to the project.
- Review of available literature in order to benefit from curriculum of other similar projects.
- Establishing a complete record system.
- Establishing a time table for the project in order to give direction to the project.
- Developing publicity formats which will be effective within a given nursing community in order to fill the classes.
- Developing criteria for student selection in order to be fair to all applicants, yet hopefully provide the course for all applicants who are employed in areas relevant to trauma nursing.

OBJECTIVE II

Objective II in the final agreement with the Florida Regional Medical Program reads:

> Develop a modular concept curriculum of 80 hours on trauma nursing to increase knowledge and skills of the professional nurses in the delivery of emergency nursing care.

DEFINITIONS

The first step initiated in the curriculum design was to define "trauma nursing." The definition with which the staff and Steering Committee agreed reads:

> A new clinical specialty in which nurses through further education must be able to initiate treatment in life-threatening situations, frequently without a physician's order.*

The "critically injured" was further defined as:

> A patient who has sustained a life-endangering injury. In addition, certain injuries such as severe eye damage, injuries to the hands and the feet, and massive facial lacerations, though not specifically life endangering, are critical in that they often result in considerable permanent disability.*

OTHER TRAUMA CURRICULA

A review of other published trauma curricula was helpful. The curricula of the University of Chicago was most helpful as it also was 80 hours in length and represented a well-tested curriculum. Contact hours are divided into four hours per day blocks over a four-week period. The decision was made to provide the 80 hour project curriculum through a two-week course with 40 hours of instruction per week.

---

*David Boyd, M.D., C.M. and Bruce Flashner, M.D., et.al. The Critically Injured Patient. Illinois Department of Public Health. p. 2.

Knowledge and skills needed by a trauma nurse were identified through the input of the Steering Committee as well as those identified by other such programs.

COURSE OBJECTIVES

Based on identified knowledge and skill needs, the following objectives were established for the course:

- Define "trauma nursing" and be able to adapt philosophies and policies for any hospital or trauma service.
- List the pertinent observations needed to assess the critically ill patient.
- Apply concept of triage in order to expedite care in trauma areas.
- Interpret the role of the nurse in caring for patient with a psychiatric emergency requiring crises intervention in the emergency units.
- Plan and implement nursing care relative to the assessment of the critically ill patient when given the medical diagnosis, or when assisting the physician in obtaining data relative to making a diagnosis.
- Plan and implement nursing care of patients with specific problems of an emergency nature.
- Show proficiency in cardiopulmonary resuscitation.
- Explain the need for and correct use of specific materials and equipment utilized in the care of trauma patients.
- State principles basic to the nursing role in the management of an emergency department.
- Identify the nurse's legal responsibilities in the areas of trauma nursing.

Skills that specifically were required included:

- Interpretation of blood gas results
- Interpretation of X-rays
- Insertion of an endotracheal tube

- Identify lethal arrhythmias and perform defibrillation as needed
- Auscultation of the head, chest, and abdomen

A preliminary curriculum was written by the Educational Coordinator, based on the course objectives. Upon presentation to the Steering Committee, the following additional topics were recommended:

- water accidents
- electrocutions
- blood products and IV solutions
- intubation procedure
- radiology
- defibrillation
- hyperalimentation

Objectives were broken down into 70 hours of classroom experience with 10 hours of clinical experience. The curriculum was then revised and submitted to the Florida Regional Medical Program for approval.

The following modules were subsequently fully developed in the proposed curriculum:

MODULE I - TRAUMA SYSTEM CONCEPT

MODULE II - SHOCK

MODULE III - MANAGEMENT OF SHOCK

MODULE IV - CARDIOPULMONARY RESUSCITATION

MODULE V - ASSESSMENT AND THERAPY OF THE CRITICALLY ILL OR INJURED PATIENT

MODULE VI - TRAUMA MANAGEMENT OF SPECIFIC ORGANS

MODULE VII - ACUTE EMERGENCY NURSING CARE

MODULE VIII - LEGAL ASPECTS OF TRAUMA CARE

A course schedule was designed to present the modules in their preferred sequence.

SUMMARY

Objective II was successfully completed. Those activities found most helpful included:

- Defining "trauma" and "trauma nursing".
- Identifying the knowledge and skills needed in trauma nursing.
- Defining objectives based on the above knowledge and skills.
- Developing a curriculum designed to meet those objectives.

OBJECTIVE III

Objective III of the contract agreement reads:

> Plan and implement activities needed to conduct a minimum of three (3) trauma nursing programs within the three (3) counties that would improve the knowledge and skills of at least 45 registered nurses.

PUBLICITY

One of the most important factors in the success of any such project is its publicity. One brochure was designed as the primary format for all four courses, with the intent of large distribution and student response. It was essential to ensure the mailing of formats to the facilities at least six weeks prior to the course initiation. Enrollment for each course closed three weeks prior to each course so that students could make schedule arrangements. Contingency formats were designed in the event courses were not anticipated to make enrollments.

FACILITY SELECTION

Orange Memorial Hospital was selected as the teaching facility based on the following criteria:

- The clinical facility should be a teaching hospital with an emergency department and intensive care units equipped to provide sophisticated treatment to all types of emergencies. (Sophisticated treatment includes high quality facilities, adequate staffing, and advanced medical technology.)
- The facility's emergency department should have a 20-bed capacity and must handle at least 2,000 patients a month.
- The facility should provide adequate classroom space for lecture and demonstration purposes.
- It should be able to provide the following equipment:

  - mannikin for intubation practice
  - 16-mm projector
  - transparency projector
  - intra-departmental telemetry equipment
  - various chest suction pumps, and equipmented needed for C.V.P., P.A.P., and P.W.P. monitoring.

- The facility must have an agreement with Valencia Community College offering insurance coverage for students while they are gaining clinical experience in that particular hospital.

A problem developed in reference to the contract calling for a minimum of one (1) of the courses being offered in an outreach area in Osceola or Seminole Counties. Upon investigation, it was determined that there were no facilities of a size that would provide student experiences to accomplish learning objectives.

FACULTY SELECTION

As previously stated, faculty were selected based on the recommendations of the Steering Committee when the individual met the selection criteria mechanism. A meeting was held prior to the initiation of the first course with instructors and hospital personnel to provide them with an overview of the program, the protocol, and to discuss their responsibilities for course implementation and coordination. Each instructor was given a general outline of his/her topic with specific items to be covered in order to meet the course objectives. Each instructor was asked to submit a more detailed outline to the Educational Coordinator for assimilation into the final modular curriculum.

STUDENT SELECTION

Students were selected according to the criteria previously stated with a minimum of 15 students per course. Registration for each course was closed three weeks prior to a course in order to provide facilities with scheduling options, and for project administrative purposes. Letters of acceptance or non-acceptance were sent to each applicant and if an applicant was denied admission to one course, he/she was placed on a waiting list or the next course. (See Appendix for letter sent.)

INDIVIDUAL COURSE COORDINATION

The Educational Coordinator was familiar with the hospital facility being used; therefore, coordination of the hospital facility was completed without difficulty. Classrooms were coordinated and a small storage space was obtained for course materials. Various clinical learning situations were surveyed and arrangements made for the clinical experience.

Films were ordered prior to each course and equipment procured. Handout materials were ordered and/or prepared for distribution.

SUMMARY

Objective III was completed as stated. Those activities defined as the most beneficial included:

- Development of specific formats for all publicity, along with a complete mailing list and dates for initiation of the various publicity mechanisms.
- Selection of a teaching facility which provides clinical experiences necessary in order to meet curriculum objectives.
- Selection of students who are currently employed in trauma areas (ICU, CCU, ER, and Industry).
- Coordination of course materials, equipment, and classroom space prior to the initiation of each course.

OBJECTIVES IV AND V

Objectives IV and V of the contract agreement read:

- Objective IV: Develop testing and evaluation tools for curriculum and overall program.
- Objective V: Conduct an on-going evaluation of the program to determine the effectiveness, cost, and needed resources.

Because of the interrelationship of these two objectives, their development and evaluation will be discussed conjointly.

STUDENT SELECTION CRITERIA

The student selection criteria as found in the Appendix was tested as it was applied to course enrollments. A number of problems developed in this area during the project.

- Some of the students in the third course did not show up nor contact the project office, thereby creating a limited class enrollment.
- As the courses began, it became necessary for the teaching hospital to screen applicant names for liability purposes.
- A student may have requested a particular course and then was unable to be relieved from duty responsibilities at the time of that course.
- Industrial nurses varied in their ability to absorb the curriculum content. Student selection criteria was insufficient in screening out those who could not keep up with the course curriculum.

A breakdown of student and course properties and their places of employment may be found in the following tables:

- Total Enrollments
- Agency of Employment
- Field of Practice
- Title of Position
- Age Averages

FACULTY SELECTION CRITERIA

The criteria as seen in the Appendix was tested as it was used. The mechanism proved to be adequate when compared with the individual student evaluation of the instructor. The project staff was questioned as to how faculty were selected, and it was explained that initial instructors were selected through Steering Committee recommendations when the individuals met the established criteria. As subsequent courses were initiated, students provided further input as to their recommendations for instructors.

FACULTY EVALUATION

A faculty evaluation form was developed as seen in the Appendix. Each instructor was given ratings from one to six on their presentation. Students were asked to complete the evaluation form for each instructor at the end of each day.

In Course #1 instructors received an overall 5.26 on a rating of 1 to 6 with 6 being the highest evaluation. During the second course, the results were a 5.28 average. One instructor was changed following a poor evaluation on the first course.

The Educational Coordinator and students commented that the individual instructor evaluations were very time consuming, taking time away from curriculum instruction. Subsequently, beginning with the third course, the individual instructor was evaluated via the final evaluation form (see Appendix) with the exception of any new instructor, "problem" instructors, and the Educational Coordinator. This method of instructor evaluation proved to be adequate and students were able to critique each instructor constructively at the end of the course.

CURRICULUM

The curriculum was tested via the following methods:

- pre/post tests
- quiz
- final evaluation questionnaire

Pre and Post Tests. The overall effectiveness of the curriculum was evaluated through the use of a pre-test and a post-test. (See Appendix). The same examination was given at the beginning and upon completion of the course. The per cent of increase in the score on the post-tests was interpreted as effectiveness of the curriculum. Percentages of increases ranged from 14 per cent to 19 per cent. (See Mean Scores Table.) An in-class quiz was also given following the lecture and demonstration on cardiac arrhythmias. The majority of students viewed the tests as very valuable.

Final Evaluation. The final evaluation (see Appendix) tested a number of items, one of which was the curriculum. Each topic presented was rated according to time spent on the topic; e.g., too much, too little, or adequate. Movies were also evaluated as to their value. Clinical experience was evaluated on the basis of each experience, and it also was rated according to its value to the student. Handout materials, pre/post tests, work sheets, and quizes were also evaluated.

An extensive evaluation of the curriculum was made following the first course. Based on student evaluations, the following changes were made in the curriculum.

- increased fluid and electrolyte lecture by one hour
- allowed an hour of discussion following crisis intervention lecture
- cancelled two films which were outdated or not appropriate

Subsequent course evaluations did not reflect the need for further curriculum changes with the exception of assignment of additional reading for selected students requesting specific learning experiences not met through the curriculum. A number of requests were made for more clinical experience in X-ray interpretations, and this was incorporated in the fourth course.

Clinical Experience. Clinical experience was evaluated through the final evaluation form. Evaluations varied according to the learning experiences available at the time of clinical experience. All activities were found to be valuable. Those experiences rated the most valuable included:

- cardiopulmonary resuscitation
- intubation procedures
- EKG interpretations
- blood gas interpretations

In general, it was felt that more time needed to be allotted for clinical experience in order for students to be oriented with the clinical facility, to feel confident, and to develop competencies in skills.

Handout Materials. A list of all handouts appears in the Appendix. These were evaluated as very valuable by all courses through the final evaluation form. The most valuable are attached to the modular curriculum.

Work Sheets. These were rated as very valuable by the students on the final evaluation form. Copies may be found in the Appendix.

PUBLICITY

Publicity was evaluated through course enrollment; e.g., did the classes meet quotas, and through the students' final evaluation. Students were asked how they learned about the course in order to determine the most effective means of publicity. Students were also asked what suggestions they might have to improve the course publicity. (See Evaluation Form, pp. 7-8 in the Appendix.)

The brochure was the publicity mechanism stated most frequently as the means by which the student learned of the course. Following the first course, "word-of-mouth" also was given frequently. In-service coordinators were helpful in disseminating publicity at their perspective agencies; however, it was learned that in several instances the staff was not informed of the course even though information was sent to their facility. It would be beneficial, perhaps, to send brochures, etc. directly to the units involved at each particular agency; e.g., ER, ICC, and CCU in order to ensure they would reach staff-level personnel.

It was felt that there may be difficulty filling the summer course; therefore, an additional course "flyer" was distributed. Consequently, 32 nurses applied for the summer (July) course.

Other means of publicity used included Florida Nurses Association publications and District #8, Florida Nurses Association announcements.

Some members of the Steering Committee felt that more publicity was needed. Newspaper, radio, and television formats were not used due to the courses meeting their enrollments. With subsequent courses, "word-of-mouth" again will be helpful and other formats can be used. It was felt that with time, the community would recognize the college as the source of such a course.

FACILITY

The teaching facility was evaluated by the students in the final course evaluation through the following questions:

- Did the facility provide adequate classroom space?
- Did the facility provide necessary audio-visual equipment?
- Did the facility provide those clinical experiences expected in order to meet the course objectives?

The facility (Orange Memorial Hospital) received a minimal number of "no" responses. These responses were due to the inability to predict what learning experiences might be available at the facility during a scheduled clinical experience period. With numerous persons lecturing, it was not feasible to provide a great deal of flexibility for the clinical experience portion of the curriculum.

COST ANALYSIS

For evaluation purposes, the staff needed to know the cost of conducting the course per student and the cost to the facility which sent each student.

Facility costs were determined through the Facility Cost Analysis form sent to each facility sending students. (See Appendix.)

The cost of presenting each course through the project was determined through:

- instructional costs
- support staff costs
- materials and supplies
- indirect costs
- equipment

The cost to the facility to send each student was evaluated through the "cost-to-facility" form. (See Appendix.) Based on these responses, the cost per facility per student averaged $783.76.

The cost to the project for conducting each course was computed at $250 per student. A combined cost per student (project plus facility) then would be $1,033.76.

SUMMARY

Evaluation tools and/or procedures were designed for the following items in an organized effort to evaluate the overall program and the curriculum:

- student selection
- faculty selection
- faculty classroom instruction
- curriculum evaluations
    - pre/post tests
    - quiz
    - final evaluation
    - handout materials
    - worksheets
    - clinical experience
- final evaluation which evaluated both the curriculum and the overall program; e.g., publicity, facility, equipment
- cost analysis

Some small changes were made in these evaluation methods during the course; however, these evaluation methods proved overall to be adequate.

PART III

CONTINUATION OF THE PROJECT

ACTIVITIES CONDUCTED TOWARD THE CONTINUATION OF THE PROJECT

The following activities were conducted:

- Meeting with Michael Hooks, Director of Community Instructional Programs, Valencia Community College, regarding future college support of project upon completion of funding.
- Contacted Ms. Mary Finnin, Executive Director of the Florida Nurses Association, regarding fund sources.
- Discussed future of project with Ms. Marcia Claussen, Program Consultant of the Florida Regional Medical Program.
- Meeting with Michael Hooks regarding college's ability to support project.
- Contacted various local directors of nursing and president of District #8, Florida Nurses Association, to ask that letters of support of project be sent to Valencia Community College requesting continuation of project.
- Meeting with Mr. Kim Beaton of the East Central Florida Comprehensive Health Planning Council, Inc. regarding funds. Received favorable response to project should the Council be designated a health service agency in the future.
- Contacted Mr. John McBride of the Florida Hospital Association regarding funding of project.
- Meeting with Grants and Development staff at Valencia Community College for exploration of funding sources.
    - film companies
    - equipment companies
    - voluntary agencies
- Attended Florida Nurses Association, District #8, Board

of Directors Meeting to request on-going support of project through the college.

STUDENT AND COMMUNITY RESPONSE

Students responded that they felt the project should definitely be continued. Students were polled, and they recommended the course be given twice a year at a minimum. The nursing community is also supportive of the project and its continuation.

VALENCIA COMMUNITY COLLEGE SUPPORT

Valencia Community College supports the continuation of the project. However, due to revenue cut-backs, future courses must be self-sustaining. This would be possible by a fee of $125 per student for a minimum of 15 students. Subsequent courses will not be dependent upon further grant monies. The first course is tentatively planned for the January quarter.

PART IV

SUMMARY AND CONCLUSSIONS

PROJECT OBJECTIVES

This project developed through the combined effort of the District #8, Florida Nurses Association, Continuing Education Committee and Valencia Community College. It was funded for the period of October 1, 1974 to August 31, 1975. The overall objective of the project was to:

> develop a comprehensive continuing education program on trauma nursing for registered nurses that can be a prototype for the state, and to implement the program in the Central Florida counties, Orange, Seminole and Osceola.

Project operational objectives included:

- Develop a central organization and management unit that will, among other functions, plan and give direction to the project as well as organize, coordinate, and evaluate the project activities.
- Develop a modular concept curriculum of 80 hours on trauma nursing to increase knowledge and skills of the professional nurse in the delivery of emergency nursing care.
- Plan and implement activities needed to conduct a minimum of three (3) trauma nursing programs within the three (3) counties that would improve the knowledge and skills of at least 45 registered nurses.
- Develop testing and evaluation tools for curriculum and overall program.
- Conduct an on-going evaluation of the program to determine the effectiveness, cost, and needed resources.

PROJECT STAFF

The staff included a one-quarter time Project Coordinator, a one-half time Educational Coordinator, and a one-half time Secretary.

The project staff were assisted in their activities through the input of the Steering Committee which was charged with:

- Assisting to develop a specific plan of action to accomplish the objectives.
- Advising on curriculum content and format.
- Assisting the project staff to review teaching materials, modules, and evaluation process.

CURRICULUM OBJECTIVES

An 80-hour curriculum was developed which included 70 hours of theory and 10 hours of clinical experience. The curriculum was built on the following objectives:

- Define "trauma nursing" and be able to adapt philosophies and policies for any hospital or trauma service.
- List the pertinent observations needed to assess the critically ill patient.
- Apply concept of triage in order to expedite care in trauma areas.
- Interpret the role of the nurse in caring for patient with a psychiatric emergency requiring crises intervention in the emergency units.
- Plan and implement nursing care relative to the assessment of the critically ill patient when given the medical diagnosis, or when assisting the physician in obtaining data relative to making a diagnosis.
- Plan and implement nursing care of patients with specific problems of an emergency nature.
- Show proficiency in cardiopulmonary resuscitation.
- Explain the need for and correct use of specific materials and equipment utilized in the care of trauma patients.

- State principles basic to the nursing role in the management of an emergency department.
- Identify the nurse's legal responsibilities in the areas of trauma nursing.

Skills that specifically were required included:

- Interpretation of blood gas results
- Interpretation of X-rays
- Insertion of an endotracheal tube
- Identify lethal arrhythmias and perform defibrillation as needed
- Auscultation of the head, chest, and abdoment

MODULE TITLES

Course theory was presented according to the following modules:

MODULE I - TRAUMA SYSTEM CONCEPT
MODULE II - SHOCK
MODULE III - MANAGEMENT OF SHOCK
MODULE IV - CARDIOPULMONARY RESUSCITATION
MODULE V - ASSESSMENT AND THERAPY OF THE CRITICALLY ILL OR INJURED PATIENT
MODULE VI - TRAUMA MANAGEMENT OF SPECIFIC ORGANS
MODULE VII - ACUTE EMERGENCY NURSING CARE
MODULE VIII - LEGAL ASPECTS OF TRAUMA CARE

Four courses were conducted during the project from 8 a.m. to 5 p.m. Monday through Friday at Oranage Memorial Hospital on the following dates:

- March 3 to March 14, 1975
- April 7 to April 18, 1975
- May 5 to May 16, 1975
- July 7 to July 18, 1975

COURSE NORMS

Students rated the curriculum as being relevant and very applicable to their job functions.

A total of 51 students completed the courses with the mean of 13 as the class size. A total of 14 agencies and/or facilities was represented.

The largest number of students were staff nurses (27) followed by supervisors and coordinators. Emergency Room nurses totaled 25, followed by Intensive Care Unit and Coronary Care Unit nurses. The generic educational backgrounds of the students included: A.A. (4), diploma (33), and B.S. (12). The mean age of the students was 35.

STUDENT RESPONSE

Students evaluated the course as being one that pertinent, essential, and one that should be recommended for all trauma unit staff.

CONCLUSIONS

Students themselves provided the most meaningful conclusions to this project through their comments on the final evaluation form. Their responses to the following questions included:

Question: Do you feel that this training will improve your effectiveness in your own trauma unit; if so, how?

- "increase my awareness of the total nursing care in trauma"
- "increase my judgment"
- "increase my teaching ability"
- "improve on continuity of care"
- "increase my confidence"

Question: What are your expectations of a trauma nurse?

- "monitoring"
- "knowledge and its application"
- "treatment of the patient as a whole"
- "treatment of the family"
- "coordinator of care"
- "expert decision maker"
- "aware of limitations and expansions of role"

Question: How do you hope to meet these expectations?

- "application of knowledge learned"
- "continuing education"
- "practice"
- "peer review"
- "use all experiences as learning experiences"

PART V

RECOMMENDATIONS

Based upon the data presented, the following recommendations are made pertaining to the continuation of the project.

STAFF

1. An educational coordinator is needed who has experience and skill in the area of trauma nursing and perferably has teaching experience.
2. A part-time secretary is required for the ordering of films, materials, and the typing and duplication of course materials.

FREQUENCY OF COURSES

1. Students were polled and they felt that the same course, offered twice a year, would meet the continuing education needs of nurses in the immediate area.
2. If nurses from elsewhere wished to register for the course, it may need to be offered three to four times a year.

STUDENT SELECTION

1. The course description used should be specific enough for the potential student to understand the

level at which the curriculum is directed. Individual student screening via an interview may be helpful.

2. Notify accepted students at least three weeks prior to course so that scheduling arrangements may be made by the student.
3. Notify place of nurse's employment of acceptance in the class.
4. If course is taught in a teaching facility, submit a list of student names to the Director of Nurses prior to the initiation of the course.
5. Students will be required to pay for subsequent courses and will need to understand that their money will not be refunded after course initiation.
6. Industrial nurses should be screened carefully in order to determine their ability to meet course objectives.

FACULTY SELECTION AND EVALUATION

1. Current faculty have been evaluated as very effective.
2. Other faculty has been recommended by students.
3. All faculty should be periodically evaluated.

CURRICULUM

1. Topical instruction of curriculum should remain as found in the modular curriculum.
2. Clinical experience of 10 hours is insufficient. The demonstrated clinical skills required through the objectives may be tested in the classroom. It is,

therefore, recommended that the clinical experience on actual in-patient units be deleted from the curriculum or expanded to more than 10 hours. Clinical skills tested in the classroom should not be deleted from the curriculum; e.g., CVP monitoring, X-ray interpretations, etc.

3. Pre and post tests are helpful to both the student and the instructor and should be continued.
4. Handout materials and worksheets were found helpful and should continue to be used.
5. In the future, as students enroll for the course who are not employed in trauma units, more individual study and reading assignments may be necessary.
6. The overall curriculum should continue to be evaluated following each course. The present final evaluation form has proven effective.

PUBLICITY

1. Publicity should be initiated at least six to eight weeks prior to the course.
2. All means of publicity should be used; e.g., pamphlet mailing, radio, television, newspaper, professional publications, and college course schedules.
3. Direct mailings of publicity to trauma units of facilities as well as the Director of Nursing and the Director of In-Service.
4. Distribution, upon request, of the modular trauma curriculum will perhaps encourage future registration.

FACILITY

1. If clinical experience is included in the curriculum, the teaching facility should meet the teaching facility criteria. (See Appendix.)
2. If clinical experience is not included in the curriculum, the course can be taught at any facility, agency or institution.

COURSE ENROLLMENTS

Course I		15
Course II		13
Course III		9
Course IV		14
	Total	51

Mean = 13/class

AGE AVERAGES

Age	Course I	Course II	Course III	Course IV
20-25	1	0	2	4
26-30	5	3	1	2
31-35	2	1	3	3
36-40	3	6	0	2
41-45	2	2	1	2
46-50	0	0	1	1
51-55	2	0	1	0
56-60	0	1	0	0
61-65	0	0	0	0
	38 mean	37 mean	35 mean	31 mean

Mean = 35 years old

TITLE OF POSITION

Title	Course I	Course II	Course III	Course IV	Total
Staff Nurse	7	5	5	9	26
Supervisor and/or Coordinator	5	3	1	1	10
Head Nurse/ Assistant Head Nurse	1	2	0	3	6
Industrial	1	2	1	1	5
Clinician	0	0	2	0	2
In-Service Education	1	1	0	0	2

*Charge Nurse included under Staff Nurse.

**Clinician identified by student.

FIELD OF PRACTICE

Field	Course I	Course II	Course III	Course IV	Total
1. ER	7	6	4	8	25
2. ICU/CCU	6	4	4	5	19
3. Industry	1	2	1	1	5
4. In-Service Education	1	1	0	0	2

AGENCY OF EMPLOYMENT

Agency	Course I	Course II	Course III	Course IV	Total
Orange Memorial Hospital	4	5	1	5	(15)
Florida Hospital	1	0	3	2	(6)
Industry (Office Nurses and Public Health)	1	2	1	1	(5)
[illegible]rlando General Hospital	2	0	1	1	(4)
Lucerne General Hospital	2	0	0	1	(3)
West Orange Memorial Hospital	1	2	0	0	(3)
Florida Hospital North	1	0	0	1	(2)
Holiday Hospital	0	0	2	0	(2)
Kissimmee Medical Center	1	1	0	0	(2)
Mercy Hospital	0	1	0	1	(2)
St. Cloud	0	0	1	1	(2)
U. S. Naval Hospital	1	1	0	0	(2)
Waterman Memorial Hospital	0	1	0	1	(2)
Winter Park Memorial Hospital	1	0	0	0	(1)

GENERIC EDUCATION

	Course I	Course II	Course III	Course IV	Total
A. A.	2	0	0	2	(4)
Diploma	9	9	7	8	(33)
B.S.	4	2	2	4	(12)

PRE-TEST AND POST-TEST MEAN SCORES

	Course I	Course II	Course III	Course IV
Pre-Test	70	61	66	71
Post-Test	87	80	80	85
Per Cent of Increase	17	19	14	14

STEERING COMMITTEE

Ruth Barnes, R.N.
Director of Nursing In-Service
Holiday Hospital
92 W. Miller
Orlando, Florida 32806

Laura Craig, R.N., Chairman
Continuing Education Committee
District #8
Florida Nurses Association
1235 E. Concord
Orlando, Florida 32803

Mary Finnin, R.N.
Executive Director
Florida Nurses Association
1235 E. Concord
Orlando, Florida 32803

Luis Folgueras, Chairman
Health Related Professions
Valencia Community College
1800 S. Kirkman Road
Orlando, Florida 32802

Dottie Harris, R.N.
Associate Director of Nursing
Orange Memorial Hospital
1416 S. Orange Avenue
Orlando, Florida 32806

Marion Kierstead, R.N.
Education Department
Florida Hospital
601 E. Rollins
Orlando, Florida 32803

William Meek, M.D.
50 Interlaken Road
Orlando, Florida 32804

Ruth Richards, R.N.
Head Nurse, Emergency Room
Florida Hospital
601 E. Rollins
Orlando, Florida 32803

Jesse C. Simons, Jr.
Administrator
Medical Center of Kissimmee
320 N. Mitchell Street
Kissimmee, Florida 32741

Betty Stuart
1256 Wilkinson
Orlando, Florida 32803

JOB DESCRIPTION
for
Joyce Dorner
Project Director
Florida Regional Medical Program
Project #318
Trauma Nursing

Organize, coordinate, and evaluate Project progress through the following activities:

1. Develop a central organization and management unit which will aid in the planning and direction of the Project (operational protocol) based on the Project Agreement.
2. Select and appoint a Steering Committee for the Project, conduct meetings in accordance with the Agreement, and communicate with the Committee as necessary.
3. Work with the Educational Coordinator and the Steering Committee in the planning, coordinating, and evaluation of four (4) Trauma Nursing sessions. Revise curriculum on the basis of evaluation of the courses.
4. Conduct on on-going program to determine the effectiveness, cost, and needed resources.
5. Conduct activities for the continuation of the Project upon completion of F.R.M.P. funds.
6. Submit five (5) Progress Reports and a final documentary style report to F.R.M.P. in compliance with the Project Agreement.
7. Provide other forms, formal and/or informal reports to F.R.M.P., Valencia Community College, and District #8, Florida Nurse's Association in compliance with the Agreement, and upon request.
8. Supervise Project Staff; e.g., Secretary.
9. Conduct monthly budgetary reviews, and convene with the Fiscal Department regarding any necessary revisions. Submit budgetary revision requests to F.R.M.P. for approval.
10. Submit Expense Reports to F.R.M.P. in compliance with the Agreement.
11. Communicate with Valencia Community College as to the progress, achievements, and problems encountered in the Project.

JOB DESCRIPTION
for
Stella Jensen
Educational Coordinator
Florida Regional Medical Program
Project #318
Trauma Nursing

1. Develop curriculum necessary for the satisfactory implementation of a Trauma Nursing Course at Valencia Community College.

    A. Collect and review resourse materials related to various aspects of trauma nursing which will be required in order to develop the content of the Program.

    B. Obtain a copy of the Emergency Mecical Technician II modular curriculum presently in use in the State of Florida for use as modular concept reference.

    C. Revise curriculum as needed, based on the results of evaluation and Steering Committee recommendations.

2. Develop testing material necessary for the satisfactory implementation of the Trauma Nursing Course at Valencia Community College.

    A. Pre-test

    B. One quiz

    C. Post-test

3. Develop and implement a systematic Trauma Nursing Course evaluation process.

4. Order films, audio-visual materials, and compile topics for hand-out materials.

5. Coordinate classroom and clinical facilities.

6. Arrange for faculty of 10 M.D. consultants, 10 R.N.'s, 1 lawyer, and 1 respiratory therapist.

7. Make course presentations consisting of fifty-seven (57) contact hours per course, totaling 228 hours for the agreement period.

JOB DESCRIPTION for Stella Jensen, Education Coordinator (con't.)
FRMP Project #318

8. Contribute expertise in the development of a course syllabus, and participate in its presentation to the Steering Committee, Valencia Community College, and the F.R.M.P.
9. Contribute expertise so as to assist the Project Director in the development, implementation, and evaluation of the Trauma Nursing Project.

JOB DESCRIPTION
for
Audrey Boquist
Secretary
Florida Regional Medical Program
Project #318
Trauma Nursing

1. Assist the Project Director in establishing filing, record, and report systems for the Project.
2. File Project materials upon the request of the Project Director.
3. Assist the Project Director in keeping budgetary allocations and expenditures current and up-to-date.
4. Type reports, summaries, and minutes of meetings in compliance with the Agreement and upon direction of the Project Director and/or the Educational Coordinator.
5. Notify members of the Steering Committee by mail and by phone of scheduled meetings.
6. Duplicate materials needed for the Project upon request of the Project Director and/or the Educational Coordinator.
7. Answer the phone when at work. Refer calls to the Project Director when necessary.
8. Assist in course assignments during registration.
9. Keep adequate inventory of supplies, and order supplies when necessary.
10. Check equipment (typewriter) for state of repair, and report any deficiencies in repair to the Project Director.
11. Will work a total of 20 hours per week for the Project period.

Biographical Information Sheet

Name: Joyce Elaine (Johnson) Dorner
Address: 1113 Golfview Drive, Orlando, Florida 32804
Date of Birth: January 6, 1943
Place of Birth: Axtell, Kansas
Marital Status: Married

Education

1961	Graduated from Axtell High School, Axtell, Kansas
1961-1963	Attended Kansas State Teacher's College. Emporia, Kansas
1963-1965	Kansas University, Lawrence, Kansas B.S. Nursing Degree
1969-1970	University of Florida, Gainsville, Florida Masters of Nursing Degree, with a specialty in psychiatric mental health nursing.

Work Experience

June, 1965 to August, 1965	University of Kansas: Public Health Nurse.
September, 1965 to September, 1967	United States Navy Nurse Corps: Charge Nurse; Head Nurse of an orthopedic unit.
January, 1968 to July, 1969	University of Florida. College of Nursing; Public Health Referral Nurse
1970-1971	University of Florida, College of Nursing; Instructor in Public Health Nursing.
1971-1973	Florida Hospital, Orlando, Florida; Clinical Specialist in psychiatric/mental health nursing, and Director of psychiatric/mental health nursing.

January, 1974 -
Valencia Community College, Orlando, Florida; Continuing Education Coordinator for Nurses.

March, 1974 -
Mid-Florida Center for Alcoholism, Inc.; Individual and group counseling; D.W.I. program counseling; Consultant to nursing staff.

Special Achievements or Awards

Letter of appreciation from the Commanding Officer of the Naval Hospital in Philadelphia, August, 1967, for duties and services rendered during military service.

Clearwater Mental Health Book Award, January, 1970, for professional and academic achievement in the graduate education program.

Professional Organizations

American Nurses Association

Florida Nurse's Association. Secretary of the State
Psychiatric/Mental Health Nursing Division.
Chairman and founder of the District #8, F.N.A. Division of Psychiatric/Mental Health Nursing.
On Board of Directors, District #8, F.N.A.

Phi Kappa Phi - National Academic Honorary

Sigma Theta Tau - Nursing Honorary

Community Activities

Member of Church Circle at First Methodist Church, Orlando, Florida.

Mental Health Association of Orange County, Inc.
Chairman, Hospital Volunteer Committee
On Board of Directors

References

Mrs. Virgie Pafford, University of Florida, College of Nursing, Gainsville, Florida

Mrs. Margaret Sumner, Assistant Administrator, Florida Hospital, Orlando, Florida

Mrs. Shirley Fruhorn, Lakeland Hospital, Lakeland, Florida

Synopsis Resume of:
Stella C. Jensen, R.N., B.S.N.

2405-D S. Bumby
Orlando, Florida 32806
Tel. 841-8411 (office)
898-1114 (home)

Job Objective: Project Coordinator
Trauma Nursing Course

Employment

1973 - 1974	Orange Memorial Hospital	Inservice Instructor
1970 - 1973	Beth Israel School of Nursing 317 E. 17th Street New York, N. Y.	Instructor (Both Classroom and Clinical)
1969 - 1970	Veterans Administration Hospital	Staff Nurse - Surgical Intensive Care Unit
1968 - 1969	St. Joseph Hospital Humboltd Street Denver, Colorado	Staff Nurse - ICU and CCU
1967 - 1968	St. Michael Hospital 206 High Street Newark, New Jersey	Staff Nurse - ICU
1965 - 1967	Manila Doctors Hospital Manila, Philippines	Staff Nurse - Labor and Delivery

Employment Highlights

1971 - 1973
Beth Israel School of Nursing
Became instructor-in-charge of N-301

Planned and developed an advanced Medical-Surgical nursing course which combined the following specialties: Neurology, Eye and Ear disorders and Community Health (Extended Care.)

Developed course objectives, activities and evaluation tools including testing materials.

Result: Course still in existence at said school and structured student activities as well as evaluation tools developed are still being utilized.

March 1973 to present
Orange Memorial Hospital

Participating in a progressive Inservice Education Department with a three prong responsibility: Orientation, Continuing Education, and Staff Development.

1974
Planned and coordinated the two-month (28 hours) Critical Care course for R.N.s.

1973
Planned and taught a staff development course on Neurological Nursing for R.N.s.

Participated in the following community extended seminars:

1. Moderator and speaker for a nursing form on "Burn Care" held in August, 1973.
2. Speaker for the topic on "Physical Care of the Cancer Patient" during the seminar on "Modern Trends in Cancer Care" sponsored by the American Cancer Society.

Attended the following courses:

1. Neonatal Intensive Care - Given by the Florida Association of Neonatology Feb. - Mar. (48 hours).
2. Legal Aspects in Nursing - Offered by Valencia Community College.
3. Renal Hemodialysis course - Orange Memorial Hospital

Education:
St. Paul College, Manila, Phillipines - A.A. 1961
St. Paul College, Manila, Phillipines - B.S.N. 1965
Average A-

PERSONAL DATA SHEET

NAME: Audrey Boquist

ADDRESS: 3232 Greenfield Avenue
Orlando, Florida 32808

PHONE: 293-0396

MARITAL STATUS: Married

PHYSICAL CONDITION: Excellent

SOCIAL SECURITY NO: 110-24-4815

AGE: 44

EDUCATION

Graduated from Curtis High School, Staten Island, New York in June, 1948.

Enrolled in Refresher Secretarial Course, Mid-Florida Technical Institute, September and October, 1974.

SKILLS

Typing--65 wpm, shorthand--100 wpm, transcription machine, adding machine.

EXPERIENCE

Stenographer at U.S. Submarine Base, Key West, Florida from January, 1954 to August, 1954. Worked for Mr. Percy Trotman, Supervisor of the Supply Department.

Clerk-Typist at U.S. Submarine Base, New London, Connecticut from July, 1953 to December, 1953.

Secretary at the Max Pollock Thread Company, Groton, Connecticut from March, 1953 to July, 1953. Worked for Mr. Arthur Moss, Assistant Manager.

Stenographer at the Mutual Life Insurance Company of New York, N. Y. from July, 1948 to January, 1953. Worked for Mr. Albert Lowell, Assistant Supervisor of the Policyholders Service Division.

During the last six years, I have occasionally worked voluntarily in my church office performing the following duties: Brought church membership records up to date; ordered material; typed services and reports.

REFERENCES

Mrs. Kate Brasch, Instructor, Office Practice Refresher Course,
Mid-Florida Technical Institute, 2900 West Oak Ridge Road,
Orlando, Florida 32809

Reverend John F. Kutz, 6330 Moore Street, Orlando, Florida 32808

Mr. Ray Darling, Engineer, 5809 Laconia Road, Orlando, Florida
32808

FLORIDA REGIONAL MEDICAL PROGRAM
Project #318

FLOW CHART OF ACTIVITIES

ACTIVITY	MONTH											
	10	11	12	1	2	3	4	5	6	7	8	9
1. Employ educational coordinator	X											
2. Employ secretary		X										
3. Select Steering Committee	X	X										
4. Collect and review resourse materials, including EMT II modular curriculum	X	X										
5. Develop Operational Protocol	X	X										
6. Submit Operational Protocol for Committee evaluation			X									
7. Convene meeting of Advisory (Steering) Committee		X	X	X			X		X		X	
8. Develop Modular Curriculum	X	X										
9. Sumbit Modular Curriculum for Advisory Committee evaluation and recommendations			X									
0. Revise Modular Curriculum based on Committee recommendations			X	X								
1. Develop Program Evaluation Tool		X										
2. Submit Evaluation Tool for Committee evaluation and recommendations			X									
3. Develop publicity formats	X	X										
4. Submit publicity formats for Committee evaluation and recommendations			X									
5. Revise publicity formats based on above recommendations			X	X								
6. Send brochure information to printer			X									

		10	11	12	1	2	3	4	5	6	7	8	9
17.	Distribute brochures				X								
18.	Mailing and coordination for other publicity formats				X		X	X		X			
19.	Order teaching aids			X	X		X	X		X			
20.	Finalize coordination of classroom, facilities and instructors				X		X	X		X			
21.	Convene meeting of instructional staff				X		X	X		X			
22.	Submit copy of lecture outline to each instructor				X		X	X		X			
23.	Prepare handouts for course(s)			X	X	X	X	X		X			
24.	Conduct Course #1						X	X	X		X		
25.	Evaluate Course #1 using Program Evaluation Tool						X	X	X		X		
26.	Submit results of evaluation and recommendations for Program changes to FRMP, FNA and FRMP consultants						X	X	X		X		
27.	Revise Program and modular curriculum based on results of evaluation						X	X	X		X		
28.	Prepare for Course #2												
	a. recruitment (publicity)						X						
	b. order teaching aids						X						
	c. finalize coordination of classrooms, facilities, etc.						X						
	d. submit outline to each instructor						X						
	e. prepare handouts						X						
29.	Conduct Course #2							X					
30.	Prepare for Course #3 (see #28)							X					
31.	Conduct Course #3								X				
32.	Evaluate Courses #2 and #3								X				
33.	Submit results of Evaluations and recommendations for changes to appropriate sourses								X				
34.	Upon approval, prepare for course #4 (see #28)									X			

	10	11	12	1	2	3	4	5	6	7	8	9
36. Evaluate overall Program											X	
37. Prepare draft of overall project report and submit to Committee members											X	
38. Prepare Final Report and Modular Curriculum											X	X
ADMINISTRATIVE AND OTHER												
1. Prepare curriculum vitaes and job descriptions of Project staff and Educational Coordinator	X	X										
2. Prepare minutes of each Advisory Committee meeting		X	X	X			X		X		X	
3. Develop bookkeeping and filing system		X										
4. Prepare Progress Report #1			X									
File Progress Report #1				X								
5. Prepare Progress Report #2 and file							X					
6. Prepare list of instructors for each Course, with assigned topic, field of expertise and present position			X	X								
7. Prepare and file Progress Report #3								X	X			
8. Initiate activities for continuation of Project following termination of FRMP funds								X	X	X	X	
9. Prepare and file Progress report #4												
10. Prepare and file Progress Report #5											X	X
11. Conduct budgetary review and convene with fiscal department regarding any necessary revisions	X	X	X	X	X	XX	X	X	X	X	X	
12. Submit time sheets to FRMP		X	X	X	X	X	X	X	X	X	X	
13. Submit travel vouchers for Project Director				X	X	X	X	X	X	X	X	
14. File Expense Reports with FRMP				X			X			X	X	
15. Submit Consultant forms for reimbursement												

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM
PROJECT #318

REVISED DECEMBER 5, 1974

"STUDENT" SELECTION MECHANISM (CRITERIA)

1. Must be a Registered Nurse with evidence of current active Florida registration.
2. Preference given to R.N.'s employed in ER, ICU, CCU, and Industry.
3. Selection will be made without preference to race, color and/or creed.
4. Selection made on first registered, first selected basis when #2 criteria is met.
5. If course for which the student seeks selection is filled, the student will be placed on the priority list for a subsequent course.
6. Written confirmation will be sent to each applicant. If confirmation is to the negative, the date of the next course will be given and student requested to notify Project staff by registration deadline date if they plan to attend.
7. Applications will be sent to all those seeking registration information by phone, with consideration given according to date of receipt of application.
8. Registration will be closed three (3) weeks prior to course initiation.
9. Other considerations: Not more than two (2) nurses from each facility will be registered for each course unless space is available.

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM
PROJECT #318

INSTRUCTOR SELECTION MECHANISM (CRITERIA)

1. Selection will be made without preference to race, color, and/or creed.
2. Instructor will be educationally and/or experientially qualified for lecture topic.
3. Instructor shall be able to demonstrate theorectical and/or clinical expertise in area of topic presentation.
4. Instructor shall be able to demonstrate ability to present lecture material in a clear and concise manner.
5. Instructor must agree to follow detailed outline for his/her presentation.
6. Instructor will understand that a curriculum vitae will be required for administrative purposes.
7. Instructor must agree to accept the consultant fee according to the provisions of the project.
8. Instructor must be available on the date presentation is to be given.
9. Instructor will understand that his/her lecture will be evaluated.

TRAUMA NURSING
FLORIDA REGIONAL MEDICAL PROGRAM
PROJECT #318

CLINICAL FACILITY SELECTION MECHANISM (CRITERIA)

1. The clinical facility should be a teaching hospital with an emergency department and intensive care units equipped to provide sophisticated treatment to all types of emergencies. (Sophisticated treatment includes high quality facilities, adequate staffing, and advanced medical technology.)

2. The facility's emergency department should have a 20-bed capacity and must handle at least 2,000 patients a month.

3. The facility should provide adequate classroom space for lecture and demonstration purposes.

4. It should be able to provide the following equipment:

    A. Mannikin for intubation practice

    B. 16-mm. projector

    C. Transparency projector

    D. Intra-departmental telemetry equipment

    E. Various chest suction pumps, and equipment needed for C.V.P., P.A.P., and P.W.P. monitoring.

The facility must have an agreement with Valencia Community College offering insurance coverage for students while they are gaining clinical experience in that particular hospital.

Trauma Nursing

Florida Regional Medical Program

Project #318

Advisory Committee Meeting #1

Date: November 4, 1974

Time: 1:30 - 3:00 p.m.

Place: Valencia Community College, Downtown Center, Second Floor Conference Room

Members Present: Ruth Barnes, Laura Craig, Lou Folgueras, Michael Hooks, Stella Jensen
Joyce Dorner

Topic	Discussion	Decision
Introductions	Joyce Dorner, as Project Director, introduced Ms. Stella Jensen, Project Coordinator for Trauma Nursing. Mrs. Jensen will be developing and implementing the curriculum, testing materials and a systematic evaluation process necessary for the satisfactory implementation of the Trauma Course at Valencia Community College. She will also contribute expertise in the development of a course syllabus and will assist the Project Director in the development, implementation and evaluation of the Trauma Nursing Project.	
Grant Proposal	Copies of the original Grant proposal were dispensed. Program objectives, course objectives, and budget were discussed. Numerous suggestions were made regarding the course outline and course content. (See decisions).	Suggestions for additions and/or changes in course outline: 1. Increase time allotte for poisoning 2. Include : A. Water accidents B. Electrocutions C. Blood products and I.V. Solution 3. Preparation and administration of drugs used in [illegible]V. addition

Trauma Nursing
Florida Regional Medical Program
Project #318
Advisory Committee Meeting #1

Topic	Discussion	Decision
Grant Proposal (con't.)		4. Intracaths and rochesters. (Insertion techniques) 5. Intubation Procedure 6. Radiology in acute trauma 7. Defibrillation 8. Hyperalimentation Laura Craig suggested use of movie "Treatment of the Acute Drug Overdose."
Instructors	Stella Jensen discussed those instructors she had considered using for the curriculum. Committee members provided several suggestions for instructors.	Names submitted as suggestion for curriculum based on the criteria of demonstrated clinical expertise in their particular specialty. (See page 2A.)
Dates of Courses	Proposed dates were discussed as follows: February 3 to February 14, 1975 March 17 to March 28, 1975 April 21 to May 9, 1975 June 9 to June 20, 1975	Committee approved dates as proposed. (See page 2B.)
Student Limit per Course	There was much discussion regarding the number of students per course. The committee discussed whether there should be an unlimited number of students who could register for the lecture portion of the instruction, and only a limited number be allowed to register for both the lecture and the clinical experience. Stella Jensen explained what she expected as	The committee voted to set the student limit to 12 per course for both lecture and clinical experience in order to provide a quality course and limit variables in the evaluation of the curriculum.

Trauma Nursing

Tentative List of Lecturers (Consultants)

Medical Doctors (10 hours)

1.	Recognition of Shock Physiological Mechanisms of Shock	Dr. Gene Gross
2.	Fluids and Electrolytes	Dr. Fleming
3.	Abdominal Injuries	Dr. Paul Geary
4.	Auscultation - Heart - Chest Abdomen	Dr. Frank Covelli
5.	Chest Trauma	Dr. Frank McKechnie
6.	Genito-Urinary Injuries	Dr. William Daniel
7.	Musculo-Skeletal Injuries	Dr. David Mackey
8.	Radiology - Acute Trauma	Dr. Richard Bagby
9.	Intubation Procedure	Dr. Sanborn
10.	Electrocution - Water Accidents	Dr. Wurtzel

Registered Nurses (10 hours)

1.	EKG Monitoring and Telemetry	Phyllis McElmurry Florida Hospital
2.	Lethal arrythmias - 3 hours	Gloria Hosford Orange Memorial Hospital
3.	Facial - Hand Injuries	Susan Mercereau Orange Memorial Hospital
4.	Eye and Ear Emergencies	Jean Fugua Holiday Hospital
5.	Poisoning	D. Merriman Orange Memorial Hospital
6.	Record Keeping	Jean Tucker State Consultant for Medical Records
7.	Suspected Child Abuse	Sandy Jones Holiday Hospital

Other

1.	Legal Aspects	Gordon Harris - Lawyer
2.	Mock Resuscitation	Steven Lytle - Respiratory Therapist

The rest of the 58 hours will be taught or proctored by Mrs. Stella Jensen, Project Coordinator.

Trauma Nursing
Florida Regional Medical Program
Project #318
Advisory Committee Meeting #1

Topic	Discussion	Decision
Dates of Courses (con't.)		See Contract, (page 4A item 3.6. The Contract Agreement calls for one (1) course to be conducted during the January 1st to March 31st period and two (2) courses during the April 1st to June 30th period. Please review these revised dates of course instruction for decision at the next Advisory meeting: Course #1, February 17 - 28 #2, April 7 - 18 #3, May 5 - 16. #4, July 7 - 18

Topic	Discussion	Decision
Student Limit per Course (con't.)	student behaviors in the clinical portion of the curriculum. Ruth Barnes asked if all the clinical experience could be placed at the end of the curriculum so that a nurse might be released for only 8½ days versus 10 days if he/she were not registered for the clinical experience.	+(See Contract, "Agreement Objective #3 and item 3.6, page 4B.) Under provisions of the agreement, a minimum of 15 students are to be registered for each course.
	Ruth Barnes stated concern for the limited number of students the Project would reach. Laura Craig discussed the need for a "quality" course and that larger numbers of students would decrease individual student attention. Joyce Dorner discussed the need to determine through the Project the need for and feasibility of an on-going program for Trauma Nursing upon completion of the Grant.	Committee suggested that publicity relate that the Project is a pilot project.
	Student selection criteria was discussed.	Preference will be given to registered nurses employed in the ICU, CCU, ER, and industry. The committee felt the Project staff should have the discretion of selection and assignment of students. Further student selection criteria will be discussed at the next Advisory Committee meeting.

Trauma Nursing
Florida Regional Medical Program
Project #318
Advisory Committee Meeting #1

Topic	Discussion	Decision
Location of Courses	The Committee discussed the locations for course presentation. Members felt that offering each course at a different facility would: 1. Increase time spent for instructor to learn policies and procedures for facility. 2. Decrease possibility of clinical experiences depending on the clinical facility. 3. Limit availability of instructual aids; e.g. models, etc. 4. Increase variables in the evaluation of the course.	Committee members voted to have four courses offered at Orange Memorial Hospital if this was in compliance with the Grant agreement. +See Grant Agreement, page 4B, #3.6. Agreement calls for a minimum of one-two courses be conducted in Osceola and/or Seminole counties. Consider Committee discussion for further discussion and decision at the next Advisory meeting.
Publicity	Proposed mailing list for publicity brochures was discussed with additions made. Target date of January 2, 1975 was discussed for mailing of brochures. Committee discussed sending a preliminary introductory letter to facilities prior to mailing of brochures so that facilities could plan relief for work schedules. Individual course flyers specific to each course were discussed.	Brochures will be mailed January 2, 1975. Introductory letter regarding the courses will be mailed to facilities prior to January 2, 1975. Individual course flyers will be sent prior to courses #2, #3, and #4.

Meeting adjourned at 3:30 p.m.

Next meeting: December 5, 1974
1:30 to 3:00 p.m.

Location: Valencia Community College
Downtown Center
1 West Church Street
2nd Floor Conference Room

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM

PROJECT #318

ADVISORY COMMITTEE MEETING #2

DATE: December 5, 1974

TIME: 1:30 p.m. - 3:30 p.m.

PLACE: Valencia Community College, Downtown Center, Second Floor Conference Room

MEMBERS PRESENT:

Marion Kierstead, Lora Craig, Betty Stuart, Ruth Barnes, Dottie Harriss, Jesse C. Simons, Jr., Lou Folgueras, Stella Jensen, Joyce Dorner, Florida Regional Medical Program Consultant, Marsha Claussen, and Valencia Community College Representatives Michael Hooks and Ron Reinighaus

I INTRODUCTIONS

Joyce Dorner, as Project Director, introduced Ms. Marsha Claussen, Program Consultant from the Florida Regional Medical Program, Audrey Boquist, secretary for the Project, Jesse Simons, Jr., Administrator of the Medical Center in Kissimmee, and Ron Reinighaus, Director of Grants and Developments at Valencia Community College.

Ms. Claussen stated that she was attending the meeting in the capacity of a staff visit. She also stated that a formal, technical "sight" visit would be made by a representative from the Regional Advisory group about half-way through the Project. This representative will assess the strengths and weaknesses of the Project.

Ms. Claussen emphasized the fact that the Contract is a legal document, and any changes considered that would deviate from the Contract would require a formal addendum to the Proposal.

Also, she brought to the attention of the Committee that the purpose of the program is "out-reach"--a program that can be utilized by other colleges and other counties.

II REVIEW OF MINUTES OF MEETING #1

III DATES OF COURSES

The dates of courses suggested were:

*February 17 - 28
April 7 - 18
May 5 - 16
July 7 - 18

Decision. These dates were approved by the Committee. *Following further communication with the Florida Regional Medical Program, the dates of the first course will be March 3 - 14. Courses #2, 3, and 4 will remain the same.

IV LOCATION

The Committee felt it best to have all four courses conducted in one hospital (see rationale in Minutes of Meeting #1), preferably Orange Memorial Hospital because of its excellent facilities. However, the Grant calls for one course to be given in Osceola or Seminole Counties.

Decision. Ms. Stella Jensen will list the criteria necessary for a facility to meet the course objectives. These will be presented at the next meeting for discussion.

V REVIEW OF OPERATIONAL PROTOCAL

A. Records and Reports System

There was much discussion on what information should be kept in regard to the experience background of the student, and should there be a long-range evaluation.

Ms. Claussen suggested that the Committee determine the cost of each course; that is, the cost of preparation of the course, the salary cost, the hand-out material cost, and the cost of the student being away from her job. Other facilities would want to know the cost before they institute the Program. It was suggested that a form be sent to the hospital asking what the cost is to them.

Decision. The Committee decided that the Project staff would develop a format to present at the next meeting.

Ms. Ruth Barnes asked if any report would cover the initial ground work of the Program.

Decision. These details will be given in the final report.

Ms. Dottie Harriss suggested that a report on the student's progress be sent to the hospital at the completion of the course.

Decision. Ms. Harriss will bring to the next meeting a copy of a letter evaluating a student's progress. The letter will be considered as a possible format for such a report.

The Committee discussed giving pins to the students upon completion of the course.

Decision. It was agreed that pins would not be presented to the students.

Other Decisions. The Committee recommended that the following information be added to the individual course data: ethic background, Social Security Number, generic education, and previous work experience. It was suggested that some of this information could be ascertained in the pre-test.

B. Flow Chart of Activities

Ms. Joyce Dorner explained the chart.

Decision. The Committee accepted the Flow Chart as presented.

C. Publicity

1. Brochure

It was decided to add the F.N.A.'s and the F.R.M.P.'s logos to the Brochure and to make other minor changes. The revised Brochure will be sent to the Florida Regional Medical Program for appraisal.*

*The Brochure was sent to the Florida Regional Medical Program on December 12, 1974. Approval with one minor change was received from Ms. Claussen on December 18, 1974, and it was sent to the printers on December 19, 1974.

It was decided that a part of the Brochure and the application may be reproduced in "Hey, Look Me Over". Lora Craig would like a news item on the course in March or April, 1975.

It was suggested that Ms. Mary F. Estes, Director of Health Services at Winter Park Hospital, be contacted in regard to the Industrial Nurse's Association. It was also suggested that a letter be sent to the President of the Florida Nurse's Association, District #9.

2. Other Publicity

Formats for other publicity were presented to the Committee for review. Ms. Claussen will notify the Project staff as to necessary revisions in other formats.

D. STUDENT SELECTION CRITERIA

The student selection criteria was presented to the Committee for review and recommendations, and it was stated that the Contract specifies classes of 15 students each.

Decision. This size class was approved, and it was decided that not more than two students from any one facility would be accepted in a course unless space is available.

It was suggested that one course be given for Industrial Nurses.

Decision. In terms of the Agreement, the curriculum cannot be changed for one type of nurse.

*It was also decided to strike Question No. 3 on the student selection form, and to change the wording of Question No. 5 to read " . . . . the student will be placed on a priority list for a subsequent course."

*Question No. 3 must remain under the Florida Regional Medical Program requirements.

Ms. Dottie Harriss recommended that a report of selected students be sent to the teaching facility.

Decision. The Project staff will develop a format for this.

E. INSTRUCTOR SELECTION CRITERIA

The instructor selection criteria was presented to the Committee for review and recommendations.

Decision. The Committee accepted the criteria as listed. It was also decided that the hospital needs to know the backgrounds of both the instructor and the student. The Project staff will make such a report to the teaching facility.

VI MODULAR CURRICULUM REVIEW

Ms. Stella Jensen, Educational Coordinator, presented the curriculum course outline and class schedules to the Committee for review.

Decision. The Committee will study the Modules and make recommendations at the next meeting.

The length of the lunch period was discussed.

Decision. It was decided to increase the lunch period to one hour, thereby changing the class times from 8:00 a.m. to 5:00 p.m.

VII OTHER EVALUATION FORMS

Ms. Stella Jensen presented the evaluation forms to the Committee for review and recommendations. Many suggestions were made about the evaluation forms and the times of evaluation.

Decision. The Committee suggested that the student submit an evaluation form after each Module. It was also recommended that the format of the evaluation forms be changed to choice questions rather than short answers. Please review the enclosed revised evaluation forms for discussion at the next meeting.

Meeting adjourned at 3:30 p.m.

NEXT MEETING: January 30, 1975

TIME: 1:30 p.m. - 3:30 p.m.

LOCATION: Valencia Community College
Downtown Center
1 West Church Street
2nd Floor Conference Room

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM

PROJECT #318

ADVISORY COMMITTEE MEETING #3

DATE: January 30, 1975

TIME: 1:30 p.m. - 3:30 p.m.

PLACE: Valencia Community College, Downtown Center, Second Floor Conference Room

MEMBERS PRESENT:

Ruth Barnes, Marion Kierstead, Ruth Richards, Jesse Simons, Stella Jensen, Joyce Dorner, Lou Folgueras, and Michael Hooks

I. PROGRESS REPORT

Joyce Dorner, Project Coordinator, stated that a Progress Report was submitted to FRMP on January 10, 1975, and that the report was accepted.

Ms. Dorner also stated that budgetary revisions were requested of FRMP by the Project staff, and that these revisions have been approved.

II. COURSE #1 - DATE REVISION

The dates for Course #1 were changed to begin March 3, 1975 and to end March 14, 1975. These dates were approved by FRMP.

III. CRITERIA FOR FACILITY SELECTION

There was much discussion about the criteria for facility selection and several changes were suggested. There was also much discussion about insurance for students.

Decision: The criteria will be revised and mailed to the Committee for further evaluation. The members of the Committee will send their evaluations to the Project staff, and the subject will again be discussed at the next meeting. Mr. Lou Folgueras will send the Project Coordinator a copy of the Valencia Community College agreement regarding insurance. (See enclosed facility criteria form. Please critique and return by March 14, 1975.)

IV. COST ANALYSIS FORM

Ms. Dorner stated that the cost analysis form is necessary so that FRMP and Valencia Community College will know exactly how much it will cost to offer this course as an on-going project. Several suggestions were made for revising the form.

Decision: These revisions will be made. The form will also state that it is from VCC for the Trauma Nursing course, and one form will be sent for each student.

V. STUDENT PROGRESS FORM

This form was to have been supplied by Ms. Dottie Harris, who was not able to attend the meeting. Ms. Stella Jensen had another form available for examination.

Decision: The subject was tabled until the next meeting.

VI. PUBLICITY FORMATS

Joyce Dorner stated that the publicity formats had been approved by FRMP.

VII. CURRICULUM REVIEW

FRMP has requested that we make the course outline more detailed. Ruth Barnes had additional material that can be incorporated into the course.

Ruth Richards suggested including one hour on how to prepare patients to be transported from one facility to another.

Modular critiques were returned with recommendations.

Decision: The curriculum will be revised with Committee recommendations and presented to FRMP for approval on February 18.

VIII. EVALUATION FORM REVIEW

Several suggestions were made about revising the evaluation forms, and it was also suggested that the lectures be audited.

Decision: It was decided to shorten the format for the instructor evaluation form, and to have the students complete form at the end of each day.

OTHER

It was stated that the registration deadline for Trauma Nursing Course #1 is February 10, 1975. Letters of confirmation will be sent out the latter part of that week.

Mr. Simon requested that daily attendance be taken during the course.

The Committee was informed that a meeting of all hospital personnel essential to the course will be called before the course begins.

Meeting adjourned at 3:30 p.m.

NEXT MEETING: To be announced.

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM

PROJECT #318

ADVISORY COMMITTEE MEETING #4

DATE: March 27, 1975

TIME: 3 p.m. - 4:30 p.m.

PLACE: Valencia Community College, Downtown Center, Second Floor Conference Room

MEMBERS PRESENT:

Ruth Barnes, Ruth Richards, Jesse Simons, Flo Dickson, Stella Jensen, Joyce Dorner, and Michael Hooks

INTRODUCTIONS:

Mr. Simons introduced Flo Dickson, Director of Nursing of Kissimmee Medical Center, to everyone.

I. FACILITY SELECTION: COURSES #3, 4

Joyce Dorner stated that there are no facilities in Osceola or Seminole Counties that meet the criteria for facility selection. Therefore, a revision of the Contract is being requested so that Orange Memorial Hospital can be used for Course #4. (See Facility Selection Criteria mailed with minutes of last meeting.)

II. COURSE #1 EVALUATION: OVERALL

Stella Jensen gave a summary of the evaluations by the students. The overall evaluation was excellent. Attendance was 100% and the attrition rate was 0.

A. Individual Instructors. They averaged a 5.26 evaluation based on a 1 - 6 grading, 6 being the highest. However, the instructor who spoke on eye and ear injuries received a low rating, and will be replaced in Course #2 by Dr. Mitchell Shapiro.

B. Pre-test; post-test. The high and low scores on the pre-test were 86% and 52% respectively, with an average of 70%. The high and low scores on the post-test were 96% and 68% respectively, with an average of 87%, thereby showing an increase of approximately 20%.

C. Clinical Practice. The clinical experience was helpful in most instances. However, there were times when there were not enough patients in the coronary and intensive care units, a factor which cannot be predetermined. Students who have had much clinical experience can use some of that time at the library.

D. Publicity. It was noted that some of the facilities did not post the brochures and, therefore, the reservation forms did not reach staff personnel. It was felt by the students that word-of-mouth would be one of the best means of future publicity.

E. Cost Analysis. Joyce Dorner stated that the forms returned by the facilities showed the average cost per student for two weeks to be $783.76.

F. Facility. The students felt that Orange Memorial Hospital was an excellent facility in which to conduct the Course.

G. Recommendations for Revisions and/or Changes. The students felt that more time on "fluids and electrolytes" was needed, and that portion of the curriculum will be increased by one hour. It was also felt that each instructor need not be evaluated during each course as it takes too much student classroom time. A random evaluation will be used in subsequent courses for any instructors receiving a marginal evaluation. The curriculum is being revised based on evaluations completed during Course #1.

III. SECOND QUARTER: ACHIEVEMENTS AND PROBLEMS

Joyce Dorner stated that there was good response and evaluations for Course #1. The fact that the brochures did not reach staff personnel in all of the facilities was disappointing. Some of the West Campus faculty were concerned about not being asked to instruct, and a meeting was held with them to report on the progress of the Project. There was a misinterpretation of the Contract in regard to students being selected only from Osceola, Seminole, and Orange Counties, but this has been rectified.

Ms. Dorner also told the committee that the office of the Project was moved from One West Church Street to One North Orange Avenue at a crucial time. This caused some inconvenience in our work schedule and also in our use of the phone, since we were without one for a few days.

IV. STUDENT PROGRESS FORM

They will be mailed to the facilities. Dottie Harriss has a copy of one which she is going to give us.

V. OTHER

Continuation of Project. Joyce Dorner stated that she is looking into several organizations which might be helpful in supplying the funds for the continuation of the Project.

Meeting adjourned at 4:30 p.m.

NEXT MEETING:	June 30, 1975
TIME:	1:30 p.m. - 3 p.m.
LOCATION:	Valencia Community College Downtown Center One West Church Street * Second Floor Conference Room

*Note: Our new telephone number is 849-3188.

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM

PROJECT #318

ADVISORY COMMITTEE MEETING #5

DATE: June 30, 1975

TIME: 1:30 - 3 p.m.

PLACE: Valencia Community College, Downtown Center,
Second Floor Conference Room

MEMBERS PRESENT:

Ruth Richards, Marion Kierstead, Stella Jensen, Joyce Dorner, Luis Folgueras, Michael Hooks, and Provost Sample

I. PROJECT EVALUATION PROGRESS REPORT

Stella Jensen gave a summary of the evaluations for Courses #2 and #3.

There were 15 students who began Course #2. One dropped out because of illness and one was asked to drop out, so 13 nurses finished the course. The lowest pre-test score was 36 and the highest was 84. The lowest post-test score was 46 and the highest was 96. There was an average of 20 to 25 per cent improvement in the scores.

There were 15 nurses selected for Course #3 but only 9 showed up. (All hospitals were contacted a week before Course #4 to confirm that those nurses selected would be able to attend the course.) The lowest pre-test score was 40 and the highest was 75. The lowest post-test score was 56 and the highest was 91.

Based on the evaluations for Course #1, an additional hour was added to the lecture on Fluids and Electrolytes, and another hour was added to the lecture on Electrocution, Near Drowning, Snake Bites, and Anaphylasis.

Dr. William Bradford substituted for Dr. Frank McKechnie on Intubation Procedures for Course #2.

Several films have been deleted from the course. They are: "Prescription for Life," "Resuscitation of the Newborn," "Diagnosis and Management of Acute Abdominal Problems," "Pediatric CPR," and "Psychological Aspects of Disaster."

Those films retained were "Lillihei on Stagnant Shock," "Acute Drug Overdose," "Hyperalimentation Techniques," and "Decisions in Critical Care."

Extra reading was assigned during the courses and the nurses then made reports on the articles read. This proved to be of value.

Incorporated in the final report will be an instructor's guide on how to use the curriculum.

Nine topics for Course #2 were rated "Very Valuable." All others were rated "Valuable." None was rated "No Value."

There were no changes in the curriculum, faculty, or films for Course #3, and ratings were basically the same. The students did suggest that more time be allowed for interpreting X-ray films.

II. REPORT ON PROGRESS TOWARD CONTINUATION OF THE PROJECT UPON TERMINATION OF FRMP FUNDS

Joyce Dorner stated that the project could continue through the college with a student fee of $100. Various class schedules for the course were discussed with members favoring evening instruction of 2 - 4 hours per evening for 1 or 2 nights per week. Mr. Luis Folgueras said he thought that the course could be included as an elective in the nursing program for college credits.

Ruth Richards stated it was her opinion that the hospitals probably wouldn't mind paying $100 for the nurses to take the course. It was suggested that the hospitals make a survey to determine if it would be feasible to take the course to the hospitals, and to determine how many nurses would be interested.

The college is still hoping to apply for government funds and has written for more information in this regard.

III. OTHER

Joyce informed the committee that according to the Grant, the committee must review the revised curriculum and the final report before the last advisory committee meeting. Therefore, we will mail these items to you as soon as possible, and ask that you review them in time for the July 31 meeting.

Lou Folgueras stated that he thought Valencia Community College would be remiss in its responsibilities if it did not pursue Continuing Education for nurses, the primary reason being that Continuing Education is going to be mandatory by 1980.

NEXT MEETING:	July 31, 1975
TIME:	1:30 - 3 p.m.
LOCATION:	Valencia Community College Downtown Center One West Church Street Second Floor Conference Room
PHONE:	849-3188

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM

PROJECT #318

ADVISORY COMMITTEE MEETING #6

DATE: July 31, 1975

TIME: 1:30 - 3 p.m.

PLACE: Valencia Community College, Downtown Center,
Second Floor Conference Room

MEMBERS PRESENT:

Dottie Harris, Stella Jensen, Joyce Dorner, and
Provost Charles W. Sample

The committee had received by mail a rough draft of the final report and curriculum which they were asked to review so that they would be prepared to make suggestions and recommendations at this meeting.

The committee went through the report item by item. Several recommendations were made and will be included in the final report to be submitted to FRMP. Some of the recommendations were:

1. more publicity
2. give college credits for course
3. eliminate clinical hours of course

There was some discussion about the need for a very specific course description for any future Trauma Nursing courses offered by Valencia Community College so that the prospective students will be made aware of the requirements necessary to master the course. This will insure the course remaining at the high level of instruction it was meant to be.

The recommendations of the committee will be incorporated in the final report which will be submitted by September 15, 1975.

This was the last scheduled meeting of the Steering Committee for the Trauma Nursing Project. Please watch for publicity regarding the next Trauma Nursing course which is tentatively scheduled for the January - March quarter of 1976.

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

January 8, 1975

TO: Florida Regional Medical Program

FROM: Joyce Dorner
Project Director, Trauma Nursing, Project #318

SUBJECT: Progress Report #1

I Attachments

1.1 Curriculum vitae and job descriptions of Project Staff and Educational Coordinator.

1.2 List of Steering Committee members with reference to their field of expertise and present position.

1.3 Copies of Steering Committee meeting minutes.

1.4 Copy of Flow Chart of Activities for conduct of Project.

1.5 Copy of criteria for student and instructor selection.

1.6 Copy of publicity formats

1.7 Copy of over-all evaluation tool.

*1.8 Copy of Revised modular curriculum.

**1.9 Copy of class schedule which includes day, time, subject, instructor, and preceptors.

*The modular curriculum was presented to the Steering Committee on December 5, 1974. Committee members are to review the curriculum and revision(s) will be made at the next Steering Committee meeting in January, 1975.

**The class schedule does not include instructors and/or preceptors. See attachment to Steering Committee Minutes (November, 1974) for proposed instructors. Lunch has been extended to one hour. Hours will be 8:00 a.m. to 5:00 p.m.

Also enclosed is a copy of the Records and Reports System.

Florida Regional Medical Program
Progress Report #1
Trauma Nursing, Project #318

II Summary report of progress, achievements and problems encountered.

A. Progress and Achievements

1. Project Director, staff, Educational Coordinator, and Steering Committee have developed a working knowledge of the Agreement.

2. The Schedule of Activities for the period of October 1, 1974 through December 31, 1974 has been completed.

3. The Steering Committee selected for the Project brings a high level of expertise to the Project. Members have been active, constructively critical, and supportive.

4. Valencia Community College has been very supportive of the Project. Administration and staff of the college have provided the Project staff with assistance whenever requested, and have made recommendations which have aided in the direction and administration of the Project.

5. Project staff have developed a working relationship with FRMP and have been most appreciative of the consultation and support given the Project by Ms. Marsha Claussen.

B. Problems Encountered

Those problems encountered during the first quarter of the Project may be summarized under the following items:

1. The signed Agreement was returned November 5, 1974. A meeting of the Steering Committee for the Project was scheduled prior to the Project Director and the Committee developing a thorough working knowledge of the Agreement. This necessitated the reversal of some of the decisions made at the first Steering Committee meeting, and further study of outreach facilities stimulated in the Agreement.

2. Budgetary requests, particularly for supplies, were miscalculated for the fourth quarter. Requests for budgetary revisions were submitted to FRMP and granted.

3. Departmental policies of Valencia Community College have necessitated use of the Schedule of Activities for January 1 to March 31, 1975 in reference to publicity. Publicity formats must be submitted to the college printing department two months in advance. The Project therefore required FRMP's early approval of the brochure publicity format.

4. Administrative problems

    1. Lag period between ordering and receipt of supplies.

    2. Secretary came on staff in November, requiring the Project Director to perform some secretarial functions early in the Project. This also made it necessary for the Secretary to get out a large amount of material in the first weeks of employment.

TRAUMA NURSING
FLORIDA REGIONAL MEDICAL PROGRAM
PROJECT #318

ADVISORY COMMITTEE

Name	Field of Expertise
Ms. Ruth Barnes, R.N. Director of Nursing In-Service Holiday Hospital 92 West Miller Orlando, Florida 32806	Medical-Surgical Nursing. Has attended Trauma Nursing Course in Chicago.
Ms. Lora Craig, R.N., Chairman Continuing Education Committee District #8, Florida Nurses Association 1235 East Concord Orlando, Florida 32803	Masters Degree in Medical-Surgical Nursing, with specialty in Cardio-pulmonary nursing.
Ms. Mary Finnin, R.N. Executive Director Florida Nurses Association 1235 East Concord Orlando, Florida 32803	Administration. Working knowledge of F.R.M.P.
Mr. Luis Folgueras, Chairman Health Related Professions Valencia Community College P. O. Box 3028 Orlando, Florida 32802	Administration. Chairman of Nursing Program at Valencia Community College
Ms. Dottie Harriss, R.N. Associate Director of Nursing Orange Memorial Hospital 1416 South Orange Avenue Orlando, Florida 32806	Master's Degree in Medical-Surgical Nursing. Helped prepare original Grant draft.
Ms. Marion Kierstead, R.N. Education Department Florida Hospital 601 East Rollins Orlando, Florida 32803	Experience in Continuing Education in a large hospital.
William Meek, M.D. 50 Interlaken Road Orlando, Florida 32804	Staff physician of three area hospital Emergency Rooms.

ADVISORY COMMITTEE (continued)

Benjamin Newman, M.D. 201 Maitland Avanue Altamonte Springs, Florida 32701	Physician in private practice. Interested in coordinating Emergency Room services in Seminole County
Ms. Ruth Richards, R.N. Head Nurse, Emergency Room Florida Hospital 601 East Rollins Orlando, Florida 32803	Extensive experience in Emergency Room nursing.
Mr. Jesse C. Simons, Jr. Administrator, Medical Center of Kissimmee 320 North Mitchell Street Kissimmee, Florida 32741	Administrator of a smaller community hospital in Osceola County.
Ms. Betty Stuart 1256 Wilkinson Orlando, Florida 32803	Consumer

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

April 9, 1975

TO: Florida Regional Medical Program

FROM: Joyce J. Dorner, Project Director
Trauma Nursing, Project #318

SUBJECT: Progress Report #2

Attachments

2.1 List of participating instructors with reference to their assigned subject, field of expertise, and present position.

2.2 Copy of revised publicity format(s).

2.3 Copy of program evaluation tool.

2.4 Copy of Steering Committee minutes.

2.5 Copy of student "hand-out" materials.

2.6 List of students in first course with reference to field of practice, title of position, and agency of employment.

2.7 Preliminary evaluation report of program based on initial available data.

2.8 Summary of progress, achievements, and problems encountered.

2.9 "Revised" curriculum.

2.10 "Revised" class schedule.

TRAUMA NURSING

Instructors

Name	Subject	Field of Expertise	Present Position
Steven Harmon	The Role of the Emergency Medical Technician in the Emergency Room	Emergency Medical Care and Treatment	Emergency Medical Technician Program Coordinator at Valencia Community College, and Public Safety Officer of Orange County Sheriff's Department
Gene Gross, M.D.	Recognition of Shock	Cardiology	On staff of Orange Memorial Hospital
Joyce Hill, R.N., B.S.N.	Fluids and Electrolytes	Medical-Surgical Nursing	Clinical Instructor of A.D. Nursing Program at Valencia Community College
Gloria Hasford, R.N.	Lethal Arrythmias	Coronary Care Nursing	Clinical Coordinator for Critical Care at Orange Memorial Hospital, and Coordinator of the Advanced Cardiology Course for Nurses sponsored by the Florida Heart Association
Joyce Dorner, R.N., M.A.	Crisis Intervention	Psychiatric/Mental Health Nursing	Project Coordinator of Trauma Nursing at Valencia Community College
Jean Fuqua, R.N. (Course #1 only)	Eye and Ear Injuries	Eye, Ear, Nose and Throat Nursing	Head Nurse of Holiday Hospital
David Mackey, M.D.	Musculo-Skeletal Injuries	Orthopedic Surgery	On staff of Winter Park Hospital
Aldon Sanborn, M.D.	Radiology in Acute Trauma	Emergency Medicine	Emergency Physician on staff of Lucerne General Hospital
Sandra Ridenour, R.N.	Cardiac Emergencies	Coronary Care Nursing; Medical and Surgical Intensive Care Nursing	Head Nurse of Intensive Care Unit of Orange Memorial Hospital

TRAUMA NURSING

Instructors

Name	Subject	Field of Expertise	Present Position
Frank McKechnie, M.D. (Courses #1, 3, & 4)	Artificial Ventilation Intubation Procedure	Anesthesiology	On staff of Florida Hospital
William Bradford, M.D. (Substitute for Dr. McKechnie, Course #2 only)	Artificial Ventilation Intubation Procedure	Anesthesiology	On staff of Orange Memorial Hospital
Diane Merriman, R.N., B.S.N.	Poisoning	Emergency Care Nursing	Inservice Instructor at Orange Memorial Hospital
Sandy Jones	Suspected Child Abuse	Social Service (B.A. Sociology, University of Florida)	Director of Social Services at Holiday Hospital, and Family Services Worker of Orange County Department of Social Services
Greg Bautista, M.D.	Auscultation	Emergency Medicine	On staff of Orange Memorial Hospital
Fredrick Wurtzel, M.D.	Electrocution, Water Accidents Anaphylaxis	Emergency Medicine	Chief of the Department of Emergency Medicine of Winter Park Hospital, and Director of Emergency Physicians at Mercy Hospital
Gordon Harris	Legal Aspects of Trauma Care	Attorney	Private Practice
Malcolm Stasiowski	Psychiatric Emergencies	Psychiatry (M.A. Social Work)	Chief Psychiatric Social Worker at Orange Memorial Hospital, and Private Practice - Psychiatric Counselor and Marriage Counselor

Preliminary Evaluation Report of Program

Based on Initial and Available Data

I Curriculum and Instructor Evaluations

A. Instructors

Averaged an overall 5.26 rating (on a 0 - 6 scale, with a 6 rating highest).

B. Instructor rating in eye-ear injuries received a rating sufficiently low enough to replace for subsequent courses.

C. Curriculum - evaluations by students indicated:

1. Need for additional allotment in time spent for fluids and electrolytes. As a result, this lecture will be increased by one hour.
2. No topics were indicated as having too much time spent on them.
3. Evaluations indicate marginal ratings to topics (4 - 6 of 15) where students would like more time for a topic. With subsequent courses, the instructor will attempt to work with students to meet these individual needs by additional bibliographies.

D. Clinical experience

Evaluations indicated an adequate amount of time was spent in most areas. Evaluations again reflect individual student needs based on their job performance needs.

E. Overall curriculum evaluations

Evaluations indicated relevancy and importance of present curriculum.

II Films

Some films were not available for previewing, and others were out-dated. This necessitated cancellation of two films for subsequent courses.

Preliminary Evaluation Report of Program
Based on Initial and Available Data (Con't.)

III Hand-outs

Evaluations indicated that these were very valuable for the students.

IV Pre-test and post-test

Evaluated as very valuable. Average mean score on pre-test was 70 percent, and mean of final examination was 87 percent, reflecting an overall change of 20 percent.

V Facility

Reflected adequate classroom space, audio-visual equipment, and clinical experiences.

VI Equipment

Evaluations reflected that the equipment demonstrated was relevant to job performance and helpful.

VII Publicity

A. Most students became aware of the course through the brochure. Apparently, however, the brochures were posted late at some facilities, and not at all at others. Students feel that "word-of-mouth" will provide best future publicity for the courses.

B. Courses #2 and #3 are filled. Publicity will be initiated for course #4.

VIII Cost Analysis

A. Cost to facilities (based on ten responses for information) for Course #1 reflected an average cost of $783.76 per facility, per student.

B. Cost of Course #1 to the Project cannot be determined at the present time due to computer print-out delay.

Summary of Progress, Achievements, and Problems Encountered

I Progress and Achievements

A. Course #1 completed as scheduled. Evaluations reflect a relevant, pertinent, and applicable curriculum for participating students. (See 2.7 - Preliminary Evaluation Report of Program Based on Initial and Available Data - for detailed evaluation.)

B. Subsequent Courses #2 and #3 have met enrollments. Publicity for recruitment of students for only Course #4 needed.

C. Project has received wide nursing and hospital community support. "Word-of-mouth" publicity will provide for potential future students.

II Problems Encountered

A. Instructional (See also 2.7)

1. Nine hours a day affects concentration of students toward the end of the day.

2. Course schedule required some rearrangement due to lecturer conflicts.

3. Individual lecture evaluations were time consuming for completion. In subsequent courses, individual instructor evaluations will be done on a random selection basis.

B. Publicity (See also 2.7)

1. Some brochures apparently never reached staff level personnel.

2. Valencia faculty sought more involvement in Project instruction. Meeting held with nursing coordinators to provide a Project progress report.

3. Publicity sent to tri-county (Orange, Seminole and Osceola) facilities. One student from Lake County was denied admission to Course #1 in error. This has been rectified and the same student is enrolled in Course #2.

Summary of Progress, Achievements and Problems Encountered (Con't.)

C. Overall Program Evaluation

1. There was a three-week span between conclusion of Course #1 and initiation of Course #2. A minimum of one month between courses would be recommended for future evaluation periods.

2. Cost Analysis forms were not returned from all agencies sending students.

D. Administrative

1. Office was moved to 1 North Orange Avenue on March 3, 1975. This occurred at a crucial time for the Project and decreased efficiency of staff personnel during the move.

2. The phone number of the Project was changed to 849-3188. The phone was not connected for two days.

3. Mail delivery is not available at new location. Secretary must pick up mail which reduces her working time. Xerox and duplicating machines are also not available at the new location, which decreases staff time in the office.

4. Secretary unable to receive budgeted salary due to personnel policies, resulting in request for revision agreement placing budgeted secretary salary under contractual services.

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

June 10, 1975

TO: Florida Regional Medical Program

FROM: Joyce J. Dorner, Project Director
Trauma Nursing, Project #318

SUBJECT: Progress Report #3

Attachments

3.1 Copy of Steering Committee minutes of March 27, 1975.

3.2 Summary of changes made in curriculum, evaluation tool, publicity, etc.

3.3 Summary of activities initiated for continuation of project following termination of FRMP funds.

3.4 Final evaluation report for the first (1) Trauma Nursing course to include evaluation data as indicated in item 3.1 under "Schedule of Activities".

3.5 Summary of plans for June and July 1975, in preparation for conducting Trauma Nursing program.

3.2 Summary of changes made in curriculum, evaluation tool, publicity, etc.

See Attachments

A. Preliminary Evaluation Report of Program Based on Initial and Available Data

B. Revised Evaluation Form

Changes

A. Curriculum

1. Fluid and Electrolytes increased by one hour of lecture.

2. Crisis Intervention lecture followed by an additional hour of discussion.

3. Time allotments for above made possible through cancellation of two films.

4. Individual needs for subject preferences met through further recommended reading.

B. Instructors

1. Instructor for eye and ear injuries changed.

2. Further instructor evaluations will be completed at random and on all new instructors.

C. Clinical Experience

Evaluations indicated an adequate amount of time was spent in most areas. Evaluations reflect individual student needs based on their job performance needs. No changes made for subsequent course.

D. Films

Some films were not available for previewing, and others were out-dated. This necessitated cancellation of two films for subsequent courses. They were: "Resuscitation of the Newborn" and "Diagnosis and Management of Acute Abdominal Problems".

E. Pre-test and Post-test

No changes made for subsequent course.

F. Publicity

1. No changes for subsequent courses #2 and #3.
2. Publicity mailed for Course #4. (see enclosed)
3. Encouraged Advisory Committee to post information on bulletin boards of their facilities.

G. Evaluation Tool

1. Overall effective
2. Due to cancellation of individual instructor evaluations on all topics, this has been added to the revised evaluation form.
3. Additional questions are asked on the revised evaluation form regarding the nurse's application of the course to his/her employment.

3.3 Summary of activities initiated for continuation of project following termination of FRMP funds.

March 17, 1975

Meeting with Michael Hooks, Director of Community Instructional Programs, Valencia Community College, regarding future college support of project upon completion of funding.

March 24, 1975

Contacted Ms. Mary Finnin, Executive Director of the Florida Nurses Association, regarding fund sources.

April 15, 1975

Discussed future of project with Ms. Marsha Claussen, Program Consultant of the Florida Regional Medical Program.

April 24, 1975

Meeting with Michael Hooks regarding college's ability to support project.

April 28, 1975

Contacted various local directors of nursing and president of District #8, Florida Nurses Association, to ask that letters of support of project be sent to Valencia Community College requesting continuation of project.

May 1, 1975

Meeting with Michael Hooks.

May 5, 1975

Meeting with Mr. Kim Beaton of the East Central Florida Comprehensive Health Planning Council, Inc. regarding funds. Received favorable response to project should the Council be designated a health service agency in the future.

Contacted Mr. John McBride of the Florida Hospital Association regarding funding of project.

May 12, 1975

Meeting with Grants and Development staff for exploration of funding sources.

a. film companies
b. equipment companies
c. voluntary agencies

May 15, 1975

Attended Florida Nurses Association, District #8, Board of Directors Meeting to request on-going support of project through the college.

May 27, 1975

Meeting with Grants and Development staff. Grant application forms have been requested through the U.S. Public Health Service.

Summary

Valencia Community College supports the continuation of the project. However, due to revenue cut-backs, the future courses must be self-sustaining. This would be possible by a fee of $125 per student for a minimum of 15 students. Application will be made through funding sources for the continuation of the project. However, subsequent courses will not be dependent upon further grant monies.

3.4 Final evaluation report for the first (1) Trauma Nursing course to include evaluation data as indicated in item 3.1 under "Schedule of Activities".

See attached Preliminary Evaluation Report of Program Based on Initial and Available Data.

Preliminary Evaluation Report of Program

Based on Initial and Available Data

I Curriculum and Instructor Evaluations

A. Instructors

Averaged an overall 5.26 rating (on a 0 - 6 scale, with a 6 rating highest).

B. Instructor rating in eye-ear injuries received a rating sufficiently low enough to replace for subsequent courses.

C. Curriculum - evaluations by students indicated:

1. Need for additional allotment in time spent for fluids and electrolytes. As a result, this lecture will be increased by one hour.

2. No topics were indicated as having too much time spent on them.

3. Evaluations indicate marginal ratings to topics (4 - 6 of 15) where students would like more time for a topic. With subsequent courses, the instructor will attempt to work with students to meet these individual needs by additional bibliographies.

D. Clinical experience

Evaluations indicated an adequate amount of time was spent in most areas. Evaluations again reflect individual student needs based on their job performance needs.

E. Overall curriculum evaluations

Evaluations indicated relevancy and importance of present curriculum.

II Films

Some films were not available for previewing, and others were out-dated. This necessitated cancellation of two films for subsequent courses.

Preliminary Evaluation Report of Program Based on Initial and Available Data (Con't,)

III· Hand-outs

Evaluations indicated that these were very valuable for the students.

IV Pre-test and post-test

Evaluated as very valuable. Average mean score on pre-test was 70 percent, and mean of final examination was 87 percent, reflecting an overall change of 20 percent.

V Facility

Reflected adequate classroom space, audio-visual equipment, and clinical experiences.

VI Equipment

Evaluations reflected that the equipment demonstrated was relevant to job performance and helpful.

VII Publicity

A. Most students became aware of the course through the brochure. Apparently, however, the brochures were posted late at some facilities, and not at all at others. Students feel that "word-of-mouth" will provide best future publicity for the courses.

B. Courses #2 and #3 are filled. Publicity will be initiated for course #4.

VIII Cost Analysis

A. Cost to facilities (based on ten responses for information) for Course #1 reflected an average cost of $783.76 per facility, per student.

B. Cost of Course #1 to the Project cannot be determined at the present time due to computer print-out delay.

3.5 Summary of plans for June and July, 1975, in preparation for conducting Trauma Nursing program.

A. Continue activities relevant to continuation of project through local support of project and application for grant funding.

B. Continue publicity of project through publication of feature story, and writing of an article for publication in one of the nursing journals.

C. Prepare for Course #4, to be initiated from July 7 through July 18, 1975.

D. Begin preliminary work on the project final report.

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

TO: Florida Regional Medical Program

FROM: Joyce Dorner
Project Coordinator, Trauma Nursing, Project #318

SUBJECT: Progress Report #4

Attachments

1. List of "students" in trauma nursing program(s) with reference to field of practice, title of position and agency of employment.

2. A preliminary evaluation report of program(s) based on initial available data.

3. Summary of progress achievements, and problems encountered.

Preliminary Evaluation

I. Curriculum and Instructor Evaluations

A. Instructors

In course #2 the instructor evaluations were very good. Students complained, however, that the evaluation tool was too time consuming. It was therefore decided that the instructor evaluation would be incorporated into the final evaluation, with the exception of new instructors, "problem" instructors and a random selection of instructors. Minimal changes were made in instructors

B. Curriculum

Students evaluated the curriculum as pertinent and meaningful and as adequate to meet the course objectives. Students did request that more time be spent on x-ray interpretations and extra time was planned for in the fourth course.

I. Curriculum Evaluation (continued)

The films used in the course, the hand-out materials, pre and post tests, the facility and equipment all received positive evaluations.

Students reflected the need for additional time for clinical experience. This they felt was needed in order to become familiar with the hospital and its procedures. Due to the current curriculum it was not possible to increase the clinical experience. It was that if students could meet the course objectives in terms of their clinical performance this would be adequate.

II. Publicity

Course #2 had met its registration early so new means of publicity was initiated for that course. Course number three also met its enrollment so formats for radio, television and newspaper were not initiated.

Progress, achievements and problems encountered

I. Achievements

A. Courses number two and three were conducted according to the contract agreement.
B. The courses met with wide nursing community support and received very favorable evaluations from the students.
C. Activities were conducted toward the continuation of the project following the discontinuance of funds. The college is supportive of the continuance of the Project and will offer the courses in the future with an enrollment fee for each student. Plans have been initiated to offer the course in January 1976.

II. Problems Encountered

A. Six students failed to attend course #3, thereby limiting the course enrollment to nine. This initiated future notification of agencies of employment of accepted students in order to prevent the same from happening again.

B. One student in course #2 was asked to terminate from the course due to a hospital nursing administration request.

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

TO: Florida Regional Medical Program

FROM: Joyce Dorner
Project Coordinator, Trauma Nursing, Project #318

SUBJECT: Progress Report #5

Attachments

5.1.1 List of "students" in trauma nursing Course #4

5.1.2 Final evaluation report for the 2nd and 3rd Trauma Nursing courses

5.1.3 Copy of Steering Committee meeting minutes

5.1.4 Report on how project activities will continue without FRMP support

Final Evaluation Report for Courses #2 and #3

A. Instructors

In course #2 the instructor evaluations were very good. Students complained, however, that the evaluation tool was too time consuming. It was therefore decided that the instructor evaluation would be incorporated into the final evaluation, with the exception of new instructors, "problem" instructors and a random selection of instructors. Minimal changes were made in subsequent instructor selections.

B. Curriculum

Students evaluated the curriculum as pertinent and meaningful and as adequate to meet the course objectives. Students did request that more time be spent on x-ray interpretations and extra time was alloted for this in Course #4.

B. Curriculum Evaluation (continued)

The films used in the courses, hand-out materials, pre and post tests, the facility and equipment all received positive evaluations and there were no changes prior to the initiation of Course #4.

Students identified the need for additional time for clinical experience. This they felt was needed in order to become familiar with the hospital and its procedures. Due to the current curriculum it was not possible to increase the clinical experience. This point was taken to the Steering Committee as a possible recommendation for subsequent courses following the termination of the Project.

C. Publicity

Course #2 met its registration early; therefore, no further means of publicity were instituted. Course #3 also met its enrollment so formats for radio, television and newspaper were not initiated.

Continuation of the Project

The nursing community has responded positively to the Trauma Nursing Project and has requested that the courses continue to be offered through Valencia Community College. Students in the courses offered during the Project were polled and they felt that offering the course twice a year would be sufficient to meet the needs of the nurses employed in the local community.

Valencia Community College is committed to the continuation of the Trauma Nursing program. Subsequent courses will, however, require a student registration fee of $75 - $100. Current plans are to offer the course twice a year, with the next scheduled course to be offered in January, 1976.

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

Dear

This is to confirm your registration in Trauma Nursing Course # to be conducted from to at Orange Memorial Hospital.

Please report to Room 200 at Orange Memorial Hospital by 8 a.m. on to begin the course, and it is requested that you bring your R.N. registration number with you.

If you have any further questions regarding the course, please call 849-3188 or 849-3190.

Sincerely,

Joyce J. Dorner

Joyce J. Dorner
Project Coordinator
FRMP Project #318

JJD:ab

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

Dear

This is to inform you that it was not possible to register you in Trauma Nursing Course # , to be conducted from

Your name has been placed on the priority list for Course # , to be conducted from
at Please advise the
Project by if these dates meet with
your approval.

Sincerely,

Joyce J. Dorner

Ms. Joyce J. Dorner
Project Coordinator
FRMP #318

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

Dear

This is to confirm your registration in Trauma Nursing Course #4 to be conducted from July 7 to July 18.

Please report to Room 200 at Orange Memorial Hospital by 8 a.m. on July 7 to begin the course, and it is requested that you bring your R.N. registration number with you.

If you will be unable to attend, please contact our office by Monday, June 16 at 849-3188 between 1 to 5 p.m.

Sincerely,

Joyce J. Dorner

Joyce J. Dorner
Project Coordinator
FRMP Project #318

JJD:ab

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

Dear

This is to inform you that it was not possible to register you in Trauma Nursing Course #4 to be conducted from July 7 to July 18.

The College presently hopes to offer the Trauma Nursing course during the 1976 winter semester. Please contact our office at 849-3188 between 1 to 5 p.m. Monday through Friday if you would like to have your name kept on file for subsequent courses.

Sincerely,

Joyce J. Dorner

Joyce J. Dorner
Project Coordinator
FRMP Project #318

JJD:ab

TRAUMA NURSING

Students Selected for Course #1

1.	Antoniuk, Christine C. 3000 Arnold Place Navy-McCoy Annex Orlando, FL 32809	Orlando General Hospital ER Staff	154-42-5596 7-4-48
2.	Chenoweth, Alice C. 4803 Eastwind Street Orlando, FL 32806	Lucerne General Hospital CCU & ICU Staff	235-56-0914 6-16-37
3.	Churchwell, Lynn E. 2005 Rockwell Orlando, FL 32808	West Orange Memorial Hospital ER Supervisor	264-17-0359 11-16-53
4.	DiBona, Michael J. 1772 Midsummer Avenue Apopka, FL 32703	Florida Hospital North ER Staff	029-34-9710 8-29-46
5.	Geitner, Kathleen M. 616 Mockingbird Lane Altamonte Springs, FL 32701	Florida Hospital ICU, CCU, HU Staff	265-66-8877 11-12-43
6.	Leiter, Georgene S. 2844 SMU Boulevard Orlando, FL 32807	U. S. Navy CCU & ICU Staff	146-40-7311 3-23-44
7.	Malys, Mary H. 4600 Judy Court Orlando, FL 32809	Rollins College Student Health Center Staff	169-30-8536 3-31-38
8.	Merriman, Diane E. 2221 Deloraine Trail Maitland, FL 32751	Orange Memorial Hospital Inservice Instructor	262-11-7752 12-29-50
9.	Muszynski, Dorothy P. 346 East Kaley Street Orlando, FL 32806	Orange Memorial Hospital Clinical Coordinator	112-16-8395 12-20-24

TRAUMA NURSING
Students Selected for Course #1 (Con't.)

10.	Pool, Betty J. 1386 Meadowbrook Street Kissimmee, FL 32741	Kissimmee Medical Center ER Floor Charge & Relief Supervisor	314-38-1175 1-20-37
11.	Porterfield, Mary T. 5515 Melody Lane Orlando, FL 32809	Orange Memorial Hospital Clinical Coordinator	496-32-0195 3-31-30
12.	Rogers, JoAnn T. 2921 S. Semoran - Apt. 236 Orlando, FL 32807	Lucerne General Hospital ER, CCU, ICU Supervisor	264-88-5066 9-20-46
13.	Smith, Barbara J. P. O. Box 566 Lake Mary, FL 32746	Winter Park Memorial Hospital ER Staff	242-42-1287 6-4-32
14.	Tanner, Dorothy J. P. O. Box 841 Lake Mary, FL 32746	Orange Memorial Hospital ER Head Nurse	266-74-2271 11-19-46
15.	Tremblay, Pauline D. 7015 Leighton Way Orlando, FL 32807	Orlando General Hospital CCU & ICU Staff - Relief Charge	006-18-6474 2-22-23

TRAUMA NURSING

Students Selected for Course #2

	Name Address	Agency of Employment Field of Practice Title of Position	Social Security No. Birthdate
1.	Asher, Angela D. 5710 Stoneridge Court Orlando, FL 32809	Orange Memorial Hospital Nursing Service Patient Care Coordinator	526-68-2961 5-21-44
2.	Ballant, Priscilla B. 221 W. Tilden Street Winter Garden, FL 32787	West Orange Memorial Hospital ER Staff	160-30-5653 2-4-38
3.	Burgess, Grace 7825 Nectar Drive Orlando, FL 32809	Orange County Health Dept. PHNT	261-50-1293 2-4-32
.	Daniel, Dorothy 223 Alma Street Kissimmee, FL 32741	Kissimmee Medical Center ER Supervisor	267-48-4953 12-16-37
5.	Davis, Dianne 714 Tangerine Street Tavares, FL 32778	Waterman Memorial Hospital ER Head Nurse	259-56-1793 7-26-39
6.	Duchano, Marjorie 818 Gaston Foster Road Orlando, FL 32807	Orange Memorial Hospital Education Department Instructor	132-28-3911 2-14-37
7.	Heyob, Mary Lou 4607 Tamworth Court Orlando, FL 32809	Orange Memorial Hospital Float RN in most areas Staff	268-34-3506 8-25-38
8.	Miller, Edna U.S. Naval Hospital Box 78 Orlando, FL 32813	U.S. Naval Hospital ICU Supervisor	062-20-5121 2-13-17

TRAUMA NURSING
Students Selected for Course #2 (Con't.)

	Name Address	Agency of Employment Field of Practice Title of Position	Social Security No. Birthdate
9.	Moorman, Elaine 24 W. Garden Avenue Winter Garden, FL 32787	West Orange Memorial Hosp. ER Staff	264-74-3450 7-2-46
10.	Poston, Barbara 622 Aldama Court Ocoee, FL 32761	Orange Memorial Hospital ER Staff	261-52-9177 10-12-38
11.	Pugh, Cheryl 331 Sandspur Road Maitland, FL 32751	Orange Memorial Hospital ER Assistant Head Nurse	261-86-0558 7-22-49
2.	Smith, Jane 1505 E. Amelia Street Orlando, FL 32803	Mercy Hospital ICU Charge Nurse	264-04-6384 4-20-45
13.	Stacey, Ouida 33. E. Seaflower Street Apopka, FL 32703	General Dynamics Industrial Nurse	253-40-2040 7-27-31

TRAUMA NURSING

Students Selected for Course #3

	Name Address	Agency of Employment Field of Practice Title of Position	Social Security No. Birthdate
1.	Behrens, Sherry 5573 N. Semoran Blvd. Apt. 408 Orlando, FL 32809	Florida Hospital CCU Special Care Clinician	263-96-1133 4-18-51
2.	Ciavatta, Mary Anne 735 Galsworthy Avenue Orlando, FL 32808	Walt Disney World Occupational Health/Guest Emergency Treatment Staff	394-40-5416 7-16-41
3.	Ehrhardt, Rita 1691 Palm Drive Winter Park, FL 32789	Orange Memorial Hospital ER Staff	276-38-5995 2-11-43
	Goodge, Ann 675 Lake Estelle Drive Orlando, FL 32803	Florida Hospital ER Assistant Supervisor	415-72-8424 6-22-44
5.	H. Virginia Graham 4306 Lake Underhill Orlando, FL 32803	Orlando General Hospital ER Staff	030-28-0493 9-27-20
6.	Richmond, Bonita 200 St. Andrews Blvd. Winter Park, FL 32789	Florida Hospital CCU Charge Nurse/Special Care Clinician	265-86-4388 12-1-51
7.	Ripple, Marlene 1306 Appleton Avenue Orlando, FL 32806	Holiday Hospital CCU - ICU Relief Charge	206-26-7335 7-22-34
8.	Stafford, Phyllis 1608 Dakota Avenue St. Cloud, FL 32769	St. Cloud Hospital ER Floor Nurse	308-50-0136 6-4-46
9.	Sturm, Geraldine 2006 Morning Drive Orlando, FL 32809	Holiday Hospital ICU Charge Nurse	180-22-0428 7-11-27

TRAUMA NURSING

Students Selected for Course #4

	Name Address	Agency of Employment Field of Practice Title of Position	Social Security No. Birthday
1.	Buckley, Marta 127 W. Buchanon Ave. Orlando, FL 32809	Orange Memorial Hospital CCU Staff	266-82-6542 10-20-30
2.	Cairns, Nancy 7225 Ravenna Ave. Orlando, FL 32809	Orange Memorial Hospital Orange Vista Hospital Assistant Head Nurse	087-30-1776 3-27-38
3.	Carpenter, Lynn B. 304 E. Orlando St. Orlando, FL 32804	Florida Hospital North ER Head Nurse	263-35-8929 7-21-51
4.	Concinni, Shavez 6001 Shenandoah Way Orlando, FL 32806	Orlando General Hospital ICU Staff	265-17-0004 3-7-54
5.	Harris, Valerie 2213 Grayson Orlando, FL 32807	Orange Memorial Hospital ER Staff	261-08-9538 10-30-52
6.	Hooker, Susan 581 Kendale Street Orlando, FL 32809	Florida Hospital ICU & CCU Assistant Head Nurse	263-78-1421 8-18-51
7.	Imhoof, Juanette 591 Dommerich Drive Maitland, FL 32751	Rollins College Staff	545-42-7311 8-26-33
8.	Juhl, Catherine 1812 Americana Blvd. Orlando, FL 32809	Orange Memorial Hospital ER Staff	527-70-7369 3-30-48
9.	Kulpan, Betsy Star Rt. 1, Box 132 Eustis, FL 32726	Waterman Memorial Hospital ER, OR Staff	410-34-1033 3-26-28

TRAUMA NURSING

Students Selected for Course #4 (Con't.)

	Name Address	Agency of Employment Field of Practice Title of Position	Social Security No. Birthdate
10.	Roby, Josephine 7005A Aloma Ave. Orlando, FL 32807	Florida Hospital ER Staff	136-34-8193 6-1-43
11.	Stedman, Jane 4403 Fairlawn Drive Orlando, FL 32809	Orange Memorial Hospital ER Supervisor	435-58-6326 1-20-41
12.	Vicari, Dale 321 Grape Avenue St. Cloud, FL 32769	St. Cloud Hospital ICU Staff	141-28-3406 5-28-37
13.	Weir, Janice 651 Spring Oaks Blvd. Altamonte Springs, FL 32701	Mercy Hospital CCU Charge Nurse	166-40-9990 4-23-47
14.	Werline, Sharon E. 526 S. Eola Dr. Apt. 1 Orlando, FL 32801	Lucerne General Hospital ER Charge Nurse	265-92-5394 6-13-51

VALENCIA COMMUNITY COLLEGE
P.O. BOX 3028 ORLANDO, FLORIDA 32802

TRAUMA NURSING
FLORIDA REGIONAL MEDICAL PROGRAM
PROJECT #318

Facility Cost Analysis

To: Director of Nursing Services

From: Valencia Community College
Trauma Nursing Project Staff

Subject: Cost to Facility for Employee's Enrollment in "Trauma Nursing" Course

An employee from your nursing staff is currently enrolled in "Trauma Nursing." The Project staff is compiling information to provide rationale and support for the continuation of the Project upon completion of funding. Facility cost analysis information is essential in determining the over-all cost of the course per student. Your cooperation in answering the following questions specific to your facility will be appreciated.

1. Average hourly Registered Nurse salary ____________
2. Shift differential evening ____________
   night ____________
3. Hourly cost of relief R.N. ____________
4. Any additional cost in employee's enrollment in the course ____________
5. Total cost ____________

*This form is confidential for statistical information only, and will not be kept on file.

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM
Project #318

PUBLICITY MECHANISM FOR RECRUITMENT OF STUDENTS

I. Brochure

A. To recruit for all four courses
B. To be mailed at least five weeks prior to initiation of Course #1
C. See Brochure

II. Individual Course Flyer

A. For mailing prior to Courses #2, 3 and 4 if further recruitment is necessary
B. Format:

TITLE OF COURSE: Trauma Nursing

COURSE DESCRIPTION: An eighty (80) hour course designed to assist the registered nurse in improving knowledge of theory, observation and skills in the care of trauma patients. Curriculum will include the trauma system concept, shock, cardiopulmonary resuscitation, assessment and therapy of the critically ill or injured patient, effect of trauma on specific organs, acute emergencies and legal aspects of trauma care.

SPONSORED BY: Valencia Community College, in conjunction with the Florida Nurse's Association, Continuing Education Committee, and under a grant from the Florida Regional Medical Program.

DATE: (See Brochure)

TIME: 8:00 a.m. to 5:00 p.m. Monday - Friday

LOCATION:	#1	Orange Memorial Hospital	#3	TBA
	#2	Orange Memorial Hospital	#4	TBA

REGISTRATION: No fee will be charged
For information call 849-3188

SPECIAL INFORMATION: Ten (10) hours of laboratory experience will be provided. Uniforms required for clinical experience.

C.E.U. APPROVED: 8.0 CEU's by the Florida Nurse's Association

III. Newspaper

A. For recruitment prior to each course
B. Feature story to be developed during second or third course
C. To be printed at least one month prior to the course initiation date
D. Format:

Valencia Community College, in conjunction with the local Florida Nurse's Association, and under a grant from the Florida Regional Medical Program, will be conducting a series of four eighty (80) hour courses entitled TRAUMA NURSING. The course is designed to assist the registered nurse in improving knowledge of theory, observation and skills in the care of trauma patients. Included in the course will be ten (10) hours of clinical experience and demonstration of equipment used in trauma units. The _________ course will begin on ___________ and will be held Monday through Friday from 8:00 a.m. to 5:00 p.m. at _________________________. Information regarding registration for Trauma Nursing may be obtai obtained by calling 849-3188.

IV. Radio

A. For distribution to all radio stations doing Valencia Community College spots.

B. Format:

Are you a registered nurse and interested in learning more about "trauma nursing"? Valencia Community College is offering an eighty (80) hour course to assist registered nurses in theory, observation and skills relevent to patients experiencing trauma. The next course begins on _____________________ at ___________________ and will be conducted Monday through Friday from 8:00 a.m. to 5:00 p.m. For information regarding registration contact Valencia Community College, 849-3188. (Repeat phone number.)

V. Nursing Publications

A. Florida Nurse

1. Listed in Continuing Education Courses section following C.E.U. approval
2. Feature story to be later developed
3. April 1975: In process of development

B. Hey! Look Me Over

1. If space is available, reprint information obtained in brochure, for initial publicity. Can use registration form for registration.
2. Note to be made with this publicity that this is a Pilot Project.
3. April 1975: see attached

VI. Hospital Bulletins

A. Feature stories on nurses who attend from the agency and/or facility.

B. Bulletins available:

1. Orange Memorial Hospital
2. Lucerne General Hospital
3. Florida Hospital

C. April 1975: In process of development

VII. Other

A. Newspaper feature: April 1975: In process of exploring

B. Magazine article: April 1975: In planning stage

Valencia Community College
Open Campus
Trauma Nursing Project
1 West Church Street
Post Office Box 3028
Orlando, Florida 32801

Non-Profit Organization
U. S. POSTAGE
PAID
Permit No. 3678
Orlando, Florida

Valencia Community College
P. O. Box 3028
Orlando, Florida 32802

trauma nursing

Florida Regional Medical Program Project # 318

Valencia Community College, in conjunction with District #8, Florida Nurse's Association, Continuing Education Committee, will conduct a series of 80 hour courses entitled TRAUMA NURSING under a Grant from the Florida Regional Medical Program.

Classroom Instruction -- 70 hours
Clinical Experience -- 10 hours

(Uniforms required for clinical experience)

Hours:

8:00 a.m. to 5:00 p.m.

Dates:

Course #1 – March 3 - 14
Course #2 – April 7 - 18
Course #3 – May 5 - 16
Course #4 – July 7 - 18

Location:

Course #1 and #2
Orange Memorial Hospital
Course #3 and #4
To be arranged

Registration:

Limited to 15 R.N.'s per course. Preference will be given to nurses employed in critical care areas. (ICU, CCU, ER, Industry). Letter of confirmation will be sent. Registration will be closed three weeks prior to the initiation of each course.

Fee:

No fee will be charged.

C.E.U. Approved:

8.0 [illegible]U.'s by the Florida Nurse's Association

Course Objectives

The Registered Nurse, upon successful completion of this Course shall be able to:

A. Define Trauma Nursing and be able to adapt philosophies and policies for any hospital or trauma service.

B. List the pertinent observations needed to assess the critically ill patient.

C. Apply concept of triage in order to expedite care in trauma areas.

D. Interpret the role of the nurse in caring for patients with a psychiatric emergency requiring crises in intervention in the emergency units.

E. Plan and implement nursing care relative to the assessment of the critically ill patient when given the medical diagnosis, or when assisting the physician in obtaining data relative to making a diagnosis.

F. Plan and implement nursing care of patients with specific problems of an emergency nature.

G. Show proficiency in cardiopulmonary resuscitation.

H. Explain the need for and correct use of specific materials and equipment utilized in the care of trauma patients.

I. State principles basic to the nursing role in the management of an emergency department.

J. Identify the nurses' legal responsibilities in the area of trauma nursing.

RESERVATION FORM **DETACH AND MAIL**

NAME ____________________

ADDRESS ____________________

BIRTHDATE ____________________ SOCIAL SECURITY NUMBER ____________________

EMPLOYER ____________________

EMPLOYED IN (ICU, CCU, ER, etc.) ____________________

STAFF TITLE (POSITION) ____________________

COURSE PREFERENCE #1 #2 #3 #4

C. E. U. Approved Letter of confirmation will be sent to applicants.

Valencia Community College

trauma nursing

CN 148 - TRAUMA NURSING

This 80 hour course of instruction, which includes ten hours of clinical experience, is designed for registered nurses to enhance skills in the care of trauma patients. Topics will include assessment, planning, implementation and evaluation of trauma patient care. Equipment and procedures specific to trauma patients will be demonstrated with opportunity given for student operation.

DATE: JULY 7 - JULY 18
DAY: MONDAY THROUGH FRIDAY
TIME: 8 AM TO 5 PM
PLACE: ORANGE MEMORIAL HOSPITAL

8 C.E.U's AWARDED

OPEN CAMPUS

1 WEST CHURCH STREET
299-5000, Ext. 292

148

TRAUMA COURSE ANNOUNCED

Valencia Community College, in conjunction with District #8, FNA, Continuing Education Committee, will conduct a series of 80 hour courses entitled TRAUMA NURSING under a Grant from the Florida Regional Medical Program.

Classroom Instruction	- 70 hours
Clinical Experience	- 10 hours

HOURS: 8:00 AM to 5:00 PM

DATES:
Course #1 - March 3 - 14
Course #2 - April 7 - 18
Course #3 - May 5 - 16
Course #4 - July 7 - 18

LOCATION: Course #1 and #2
Orange Memorial Hospital

Course #3 and #4
To be arranged

REGISTRATION:

Limited to 15 RN's per course. Preference will be given to nurses employed in critical care areas. (ICU, CCU, ER, Industry). Letter of confirmation will be sent. Registration will be closed three weeks prior to the initiation of each course.

FEE: No fee will be charged. Uniforms required for clinical experience.

CEU APPROVED: 8.0 CEU's by the Florida Nurses Association

Course Objectives

The Registered Nurse, upon successful completion of this course shall be able to:

A. Define Trauma Nursing and be able to adapt philosophies and policies for any hospital or trauma service.

B. List the pertinent observations needed to assess the critically ill patient.

C. Apply concept of triage in order to expedite care in trauma areas.

D. Interpret the role of the nurse in caring for patients with psychiatric emergency requireing crises intervention in the emergency units.

E. Plan and implement nursing care relative to the assessment of the critically ill patient when given the medical diagnosis, or when assisting the physician in obtaining data relative to making a diagnosis.

F. Plan and implement nursing care of patient with specific problems of an emergency nature.

G. Show proficiency in cardiopulmonary resuscitation.

H. Explain the need for and correct use of specific materials and equipment utilized in the care of trauma patients.

I. State principles basic to the nursing role in the management of an emergency department.

J. Identify the nurses' legal responsibilities in the area of trauma nursing.

RESERVATION FORM DETACH AND MAIL

NAME ______________________________
ADDRESS ______________________________
BIRTHDATE ______________ SOCIAL SECURITY NUMBER ______________
EMPLOYER ______________________________
EMPLOYED IN(ICU, CCU, ER, etc.) ______________________________
STAFF TITLE (POSITION) ______________________________
COURSE PREFERENCE #1 #2 #3 [illegible] CEU Approved - Letter of confirmation will be sent to applicants.

Pre-test

TRAUMA NURSING

Name ______________________________ Title or Position ____________________

Field of Practice ______ICU ______ER ______CCU _____Industrial

Agency of Employment ____

Education: Diploma Program______ A.D.______ B.S._____ M.A.____

Previous Work Experience: ____________________________________

Choose the best answer. Only one answer is indicated unless specified.

1. Cardiac Tamponade is manifested by:

   A. low CVP, low BP
   B. high CVP, low BP, fast pulse
   C. low U. O.
   D. dyspnea

      1. B,C,D
      2. A,C,D
      3. B,C
      4. A,D

2. Explain why a patient with severe hypercapnea (increased CO_2 level) should not receive high levels of oxygen.

   A. A high level of O_2 may lead to rupture of the aveoli.
   B. His only stimulus to breathe may be a low PO_2 content.
   C. A high level of oxygen will cause respiratory acidosis.

3. A wide mediastinum on X-ray is indicative of what thoracic injuty?

   A. cardiac contusion
   B. tension pneumothorax
   C. rupture of aorta

4. CVP readings can be inaccurate as a result of:

   A. airway obstruction
   B. use of respirator
   C. catheter obstruction
   D. changes in body position

      1. A & D
      2. B & C
      3. all of the above

5. Respiratory acidosis is characterized by:

   A. low ph & high PCO_2
   B. low ph & low PCO_2
   C. high ph & low PCO_2
   D. none of the above

6. Mr. M. is admitted to the Emergency Room with severe dyspnea. The nurse noted that only his right chest moved on respirations and that there were no breath sounds on the left chest. Her initial action should be:

   A. prepare a thoracentesis tray
   B. call the physician as the patient possibly developed a pneumothorax
   C. insert a large bore needle into the 4th intercostal space
   D. ask the patient if he always breathes this way

7. CVP reflects:

   A. venous pressure in the vena cavae and right atrium
   B. pressure in the pulmonary vein
   C. pressure in the left atrium
   D. pressure in the peripheral vein

8. The most significant observation done for a patient with head injury is:

   A. pupillary reactions
   B. temperature
   C. spinal fluid leak from nose or ears
   D. level of conciousness

9. Vital signs on a patient with a head injury with increased intracranial pressure would show:

   A. high BP, fast pulse
   B. low BP, fast pulse
   C. high BP, low pulse

10. The drug of choice for the management of hemodynamic shock is:

   A. Isuprel
   B. Epinephrine
   C. Intropin
   D. Aramine

11. An increase in hemoglobin and hematocrit on a severely burned patient is indicative of:

    A. dehydration
    B. overloading of the circulatory system
    C. infection
    D. electrolyte imbalance

12. Fresh Frozen Plasma is used:

    A. when concentrates are not available
    B. prior to an organ transplant
    C. in place of platelet-rich plasma
    D. for patients with a clotting factor deficiency or when deficiency is undiagnosed

13. The blood product used in the treatment of hemophilia is:

    A. fibrinogen
    B. albumin
    C. cryoprecipitate or factor 8

14. A patient who sustains burns involving the whole circumference of the chest and the back, including both arms has a:

    A. 36% surface area burn
    B. 28% surface area burn
    C. 18% surface area burn
    D. 54% surface area burn

15. The primary function of the respiratory system is:

    A. to provide O_2 to the tissues
    B. eliminate CO_2 from the lungs
    C. exchange O_2 & CO_2 at the alveolar level
    D. A & B

16. Rotating tourniquets, diuretics and digitalis are used in treating:

    A. liver failure
    B. pulmonary edema
    C. cardiac tamponade
    D. mitral insufficiency

17. Conditions that cause metabolic acidosis are:

    A. diabetes
    B. hypoventilation
    C. shock
    D. renal-failure
    E. excessive vomiting

        1. all of the above
        2. A,C
        3. A,B,E
        4. A,C,D

18. Before defibrillating a patient, the operator must take the following precautions:

A. synchronize the machine so that the shock is delivered in time with the "R" wave
B. set the "discharge" button at 400
C. set the "discharge" button at 20
D. instruct everybody to "stand back"
E. lubricate the paddles

1. A,B,D,E
2. C,D,E
3. B,D,E
4. A,B,D

19. The usual adult dose for IV infused Mannitol is 50-200 gm in 24 hours. Mannitol is supplied in 50 cc ampules containing 12.5 grams Mannitol.

Doctor"s Order reads: Add 2 amps. Mannitol in 500 cc of D5W and infuse 4 gms Mannitol per hour. Using a micro-drip, the nurse should infuse this amount per minute:

A. 100 gtts.
B. 80 gtts.
C. 50 gtts.
D. 150 gtts.

20. Lidocaine (Xylocaine) administered intravenously for ventricular tachycardia would have the following adverse effects if given in overdose:

A. tachycardia, hypertension
B. twitching, tremors, convulsion
C. bradycardia which may lead to cardiac arrest
D. B & C
E. A & B

21. The normal blood ph is:

A. 6.8 - 7.0
B. 4.6 - 7
C. 7.35 - 7.45
D. 7.30 - 7.35

22. Hyperventilation if uncorrected will lead to respiratory alkalosis because:

    A. CO_2 is retained
    B. CO_2 is lost
    C. HCO_3 is elevated
    D. PO_2 is increased

23. The pulmonary arteries receive blood from:

    A. left atrium
    B. left ventricle
    C. right atrium
    D. right ventricle

24. Which of the following types of head injuries warrant prophylactic use of antibiotics?

    A. contusion
    B. linear fracture
    C. gun-shot wound
    D. sub-dural hematoma

25. Each normal heartbeat:

    A. is the result of an electrical impulse originating from the right atrium
    B. begins in the SA node
    C. passes from the SA node to the bundle of HIS
    D. ends as the impulse reaches the bundle branches

        1. all of the above
        2. A,B
        3. B,C,D
        4. A,C

26. In closed chest massage:

    A. cardiac compression should be 60-80 per minute
    B. the heel of the palm is placed on the lower third of the zyphoid process
    C. two operators should administer one ventilation to every 10 cardiac compressions
    D. cardia compression should depress the chest 1 - 1½ inches or 80 lbs. of pressure

        1. A & D
        2. A,B,D
        3. all of the above
        4. A,C,D

27. The principal cause of death in facial injuries is:

    A. hemorrhage
    B. infection
    C. increased intracranial pressure
    D. upper airway obstruction

28. The five (5) "P's" used as diagnostic signs of peripheral injuries are: (circle 5 letters)

    A. absence of pulse
    B. paradoxical pulses
    C. pain
    D. palpitation
    E. pallor
    F. paresthesias
    G. paralysis
    H. perspiration

29. Indications that pancreatic injury may exist are:

    A. leukocyte count over 20,000
    B. elevated amylase
    C. elevated SGOT
    D. tenderness of the right lower quadrant of the abdomen

        1. A,B,C
        2. A,B
        3. A,B,D
        4. all of the above

30. The main direct source of arterial blood to the brain is by:

    A. carotid artery
    B. jugular vein
    C. subclavian artery
    D. the aorta

31. Cardiac output is:

    A. the amount of blood ejected by the heart per contraction
    B. is also known as stroke volume
    C. is about 60-70 cc normally
    D. is about 5 liters per minute normally

32. Which tissue is most sensitive to lack of Oxygen?

A. myocardium
B. lung tissue
C. cerebral cortex
D. kidney tissue

33. Why is an elevated temperature particularly dangerous to the patient with a head injury?

A. It raises intracranial pressure.
B. It alters blood ph.
C. It increases need for Oxygen.
D. It releases toxins.

34. Blood pressure is not affected in shock until total blood volume is decreased more than:

A. 5%
B. 15 - 30%
C. 10%
D. 40 - 50%

35. In peripheral vascular injuries:

A. the partially severed vessel will bleed more than the completely transected vessel

B. pulses may be presented initially and then disappear later
C. evaluation of the pulses distal to the injury is mandatory
D. absence of pulses indicates the limb will be lost

1. A,B
2. A,B,C
3. A,B,D
4. D

Match the appropriate letter that is defined in the left-hand column.

A. Hyperkalemia
B. Hypocalcemia
C. Hypercapnea
D. Tachypnea
E. Alkalosis
F. Asystole
G. Hyponatremia'
H. A D H
I. Ventricular fibrillation
J. Hypovolemia
K. Curling's ulcer
L. Embolism
M. Paralytic ileus

___ increased amount of CO_2 in the blood
___ stress ulcer secondary to severe trauma or burn
___ increased bicarbonate
___ increased potassium
___ uncontrolled heart beat
___ decreased calcium
___ released blood clot
___ low blood and/or fluid volume
___ produced by the pituitary gland
___ heart standstill

True or False

___ 1. Shock can lead to renal failure.
___ 2. Xylocaine IV infusion is indicated in all types of cardiac fibrillation.
___ 3. A low ph is more toxic to the body than a high ph.
___ 4. Electrical impulse to the cardiac muscle begins in the S-A node.
___ 5. A patient is said to be in acute hemorrhage if 500 cc's has been lost.
___ 6. Gastric injuries should be suspected if blood is aspirated from the levine tube.
___ 7. The spleen is the most commonly injured intra-abdominal organ in blunt trauma.
___ 8. Absence of breath sounds may be indicative of air or fluid in the pleural space.
___ 9. When human anti-toxin is not available, prophylaxis against tetanus can be accomplished by means of broad spectrum antibiotics given in therapeutic doses.
___10. Injury to the first or second rib indicates minor trauma.
___11. Changes in the level of conciousness is the best determinant of the existence and severity of head injury.
___12. Flail chest is a fracture of two or more ribs in more than one place.
___13. Distended neck veins is one sign that could distinquish cardiac tamponade from shock.
___14. Acute M.I. is usually evidenced by changes on the S-T and T waves on an EKG.
___15. In left sided heart failure, blood backs up in the pulmonary veins.

THE ROLE OF THE TRAUMA NURSE
TERI ROMANO, R.N., B.S.

I. THE CHANGING ROLE OF THE NURSE

- A. In coronary care
- B. In trauma
    - 1. Growing public concern in the field of emergency care
    - 2. Illinois Statewide Trauma Program
- C. Specialization in Nursing
    - 1. Advancement from the "generalist-physician helper" of the past.
    - 2. Necessitates advance education
        - a. Physiological approach to patient care
        - b. Application of physiology to clinical situation

II. THE ROLE OF THE TRAUMA NURSE

- A. Goes beyond what is normally defined as "nursing care"
- B. In the initial emergency situation
    - 1. Evaluation of patient
    - 2. Formulation of diagnosis
    - 3. Decision of need for immediate independent action - use of clinical judgment
    - 4. Utilization of advanced skills.
- C. The nurse as the "triage officer"
    - 1. Determination of seriousness of injury or condition
    - 2. Evaluation and tentative diagnosis
    - 3. Screening and determination of destination - use of clinical judgment

D. In the observation period

1. Physiological approach

2. Awareness of possible complications or occult injuries

E. Clinical Evaluation

1. Assessment and emergency treatment of:

a. Adequacy of airway
b. Cardiac function
c. Bleeding
d. Open wounds or fractures

2. Priorities of care

a. Maintain life
b. Maintain function
c. Maintain appearance

3. Systemic evaluation

a. After emergency measures have been treated
b. Evaluation of total body systems for possible injury
c. Carried out in order of priority
d. Verbal history obtained simultaneously

4. Thoracic

a. Check for obvious or external injury
b. Listen for breath sounds
c. Palpate chest for fractures or defects
d. Palpate tracheal position

5. Head, neck and spinal cord injuries

a. Sand-bag patient (all head injuries are potential cord injuries)
b. Check and record level of consciousness at frequent intervals
c. Check for external or obvious injury
d. Have patient move all extremities
e. Evaluate PERL
f. Palpate skull and neck for deformities or hematomas
g. Evaluate motor and sensory function
h. Check ears and nose for CSF

6. Abdominal injuries

   a. Check for obvious or external injury
   b. Look for exit wounds
   c. Listen for bowel sounds
   d. Notice abdominal girth
   e. Palpate abdomen and flank for peritoneal signs
   f. Evaluate x-rays and lab results (Hct, WBC, amylase)

7. Facial and eye injuries

   a. Check for obvious or external injury
   b. Check eyes for hyphemas and movement
   c. Palpate bony structures for fractures (crepitus-deformity)
   d. Manipulate maxilla gently for fractures
   e. Check for malocclusion
   f. Evaluate neurologically

8. Extremity injuries

   a. Check for obvious or external injuries
   b. Palpate for all pulses
   c. Evaluate sensory and motor function
   d. Note color and temperature of extremities

NOTES:

PARENTERAL HYPERALIMENTATION

I. PHYSIOLOGY

A. Negative Nitrogen Balance occurs in clinical conditions such as:

Starvation
Malnutrition
Febrile Diseases
Burns
Trauma

1. "Flight and Fight" stress situations increase secretion of adrenal catecholamines (epinephrine, nor-epinephrine) which increases BMR and potassium excretion.

2. Epinephrine inhibits insulin release which results in diabetic-like condition.

3. Immobilization causes protein breakdown.

II. BIOCHEMISTRY AND PHARMACOLOGY

1. Provide adequate non-protein calories (glucose) for energy so amino acids (AA) can be completely used to establish a positive nitrogen balance for repair of tissues and promotion of growth.

2. 150 non-protein calories per Gram of nitrogen is optimal.

III. BASIC COMPOSITION OF ADULT HYPERALIMENTATION FORMULA

Agent	Concentration (per liter)
Dextrose	20%
Protein Hydrolysate	5%
Nitrogen	5-6 Gm.
Potassium Chloride	30-40 meq.
Sodium Chloride	40-50 meq.
Multivitamins	
Other Electrolytes (Ca, Mg, PO_4)	

IV. CLINICAL APPLICATIONS

1. In Patients Who Cannot Eat:

    Esophageal carcinoma
    Gastric carcinoma
    Obstructing peptic ulcer
    Patalytic ileus

2. In Patients Who Should Not Eat:

    Enterocutaneous fistulas
    Regional enteritis
    Granulomatous colitis
    Pancreatitis
    Largyngeal incompetence

3. In Patients Who Cannot Eat Enough:

    Multiple injuries
    Major full thickness burns
    Ulcerative colitis
    Short bowel syndrome
    Malabsorption syndrome
    Chronic vomiting

4. In Patients Who Will Not Eat Enough:

    Pre and Post-Operative geriatric patients
    Anorexia nervosa

5. In Patients with Miscellaneous Conditions:

    Intractable diarrhea
    Renal failure
    Hepatic disease
    Peritonitis

V. NURSING CARE AND IMPLICATIONS

A. Nursing Responsibilities - Maintain sterile technique during insertion

1. Catheter dressing change every 2-3 days - USE STERILE TECHNIQUE! Check around site daily for signs of infection.

2. Change IV tubing and millipore filter

3. Catheter should not be used to administer medications and withdraw blood.

4. Insure constant infusion rate! Too rapid administration leads to dehydration.

5. Urine glucose and specific gravity should be watched carefully and reported to M.D. if unusual. Regular insulin may be required.

6. Fluid balance data and body weight should be obtained daily.

7. Electrolytes are drawn daily until stable, then every other day.

8. Physical Therapy and psychological care are important and the nurse should provide support.

9. Watch for complications!

    a. Sudden pyrexia may indicate infection.

    b. Headache and nausea may indicate too rapid flow.

    c. Air emboli

    d. Phlebitis

    e. Thrombosis

    f. Dehydration

10. MAINTAIN STERILITY OF SOLUTION BY PRACTICING EXCELLENT STERILE AND NURSING TECHNIQUES WHEN CARING FOR PATIENTS ON HYPERALIMENTATION THERAPY.

MAGNITUDE OF HEMORRHAGE		CLINICAL FINDINGS	POSSIBLE ETIOLOGY	TREATMENT
Grade I	Minor blood loss (10-15%) 500-750 ml	Well compensated May have dizziness, tachycardia (100/min) B/P normal or slightly ↓	External Blood donation Laceration Internal Hematoma Hemothorax Extremity fracture	Control hemorrhage Infuse crystalloid if necessary
Grade II	Moderate blood loss (15-30%) 750-1500 ml	Partial compensation Cool sweaty thirst Tachycardia (110/min) Tachypnea (24/min) Decreased pulse pressure Slight hypotension (90-100 mm Hg)	Major laceration Subcapsular splenic rupture Fractured femur	Control hemorrhage Crystalloid and colloid infusion Oxygen administration Evaluate for obscure bleeding Usually need IV
Grade III	Major blood loss (30-45%) 1500-2250 ml	Decompensation Cold clammy pallor Tachycardia 120/min Hypotension 80/mm Hg Obliguria 30 cc/hr Metabolic acidosis	Peripheral vascular injury Stellate liver injury Pelvic fractures	Control hemorrhage Crystalloid & colloid blood transfusion Oxygen & bicarbonate infusion Physiologic monitoring Definitely IV's & usually blood
Grade IV	Catastrophic blood loss (45%) Over 2250 ml	Cyanosis Semiconscious Respiratory distress Profound hypotension Anuria, Metabolic acidosis Confused	Traumatic amputation Visceral arterial injury Multiple injuries	Control hemorrhage Oxygen, bicarbonate Blood colloid crystalloid Cardiac monitoring antibiotics

CARDIAC ARREST

	SODIUM BICARBONATE	ADRENALIN	ISUPREL	CALCIUM CHLORIDE	ZYLOCAINE
INDICATED	Acidosis	Asystole	Asystole	Asystole	Fibrillation
Action and Uses	Neutralizes the free flowing lactic acid to stabilize the acid base balance	Stimulates the myocardium to↑ the force of contractions →↑ cardiac output	Accelerates the heart↑ the vent. rate in patients with heart block	Used when epinephrine has failed to improve a weak or ineffective myocardial contraction	Anesthetic - stabilizes the cell membrane of the heart reducing cardiac excitability
Dispensed in tackle box	50 meq = 50 cc solution 1 meq = 1 cc	1 mg (1:1000 sol) = 1 cc	1 mg in 5 cc	1 Gm in 10 cc	20 mg/cc in 20 cc Multi-dose vial
Usual Adult Dose (may vary) and frequency of administration	50 meq - $\bar{q}$ 5-10 min. in 50 cc syringe IV push	0.5 - 1 ml. diluted in 4 cc of sodium chloride $\bar{q}$ 3-5 min. IV push or intra-cardiac	1cc (0.2 mg.) diluted in 10 cc of sodium chloride IV push Inter-cardiac 0.2 mg. undiluted use heart needle or disp. spinal needle	1 Gm (10 cc) may be given at 3-5 min. intervals	50-100 mgm (15 - 25 cc) may be given initially

NURSE'S EVALUATION AND EXAMINATION OF A CRITICALLY INJURED PATIENT

1. Patient's history, if able to obtain

    Time of injury - very important
    Mechanism of injury
    Specific complaints presently displayed
    Past illnesses
    Allergies

PHYSICAL EXAM

1. Level of consciousness - most important sign
2. Pupils - check for size, equality, reaction to light
3. Head - feel for lacerations, check for blood or cerebral spinal fluid leaking from nose or ears
4. Symmetry of face - feel face with hands, look for point tenderness which will indicate possible fractures, face should look the same on both sides.
5. Visual acuity - check for diplopia, blurred vision
6. Mouth - check tongue for lacerations, check for maloccusion by having patient bite down
7. Carotid pulses - check for quality and equality of pulses on both sides, look for presence of hematomas
8. Trachea - feel trachea checking to see if it is in midline position
9. Cervical Spine - feel area for unusual projections, neck crepitus (subcutaneous air indicating possible tracheal injury or pneumothorax)
10. Symmetry of chest expansion
11. Cyanosis - lips, nailbeds
12. Sucking chest wounds - listen to breath sounds, percuss chest for dullness
13. Sternum - press on sternum, checking for fractured ribs. If there is a rib fractured, patient will tell you where it hurts

14. Abdomen - contusions, abrasions. Gross distention. If grossly distended within 20 minutes of injury, it is usually due to hemorrhage or peritonitis. If distention appears later (12 hours), it is usually due to an ileus. Check for tenderness, guarding, voluntary, non-voluntary rebound tenderness. All 4 quadrants should be palpated.

15. Pelvic injury - push pelvic wings together - pull apart. Presence of pain will usually indicate fracture.

16. Foley catheter - check color, concentration of urine. If blood is present from uretheral meatus, suspect ruptured meatus.

17. Rectal exam (per Doctor) observe for pain and presence of blood.

18. Extremities - ask patient to pick up all extremities. If patient can perform this, usually indicates no fractures or spinal cord injury. Check temperature, color, pulses of all extremities

19. Vertebral column - must check patient's back for contusions, abrasions. Feel spinal column for tenderness or deformity

The above observations should be reported to the doctor and recorded in an orderly fashion.

Team concept to be implemented in the care of trauma patients.

1. Primary doctor - should be a general surgeon in charge of the team, performs the initial examination. Calls consults as he deems necessary. Responsible for coordinating all patient's activities.

2. Nurses' responsibility - performs initial examination in absence of doctor. Assists doctor with all emergency procedures, records all pertinent information, remains with patient until transferred to surgery or one of the nursing units.

CRITICAL INJURY INDEX

	SYSTEM:	ABNORMAL	SEVERELY ABNORMAL
1.	Airway	obstructed, partially by foreign object	obstructed, completely by injury
2.	Breathing	shallow or uneven	labored or undetectible
3.	Respirations	24-36 per minute	below 16, above 40 per minute
4.	Bleeding	minor, controllable by external pressure	massive, uncontrollable by simple pressure
5.	Pulse	90-120 per minute	irregular or none, below 60 or above 120 per minute
6.	Wounds	superficial multiple lacerations, or abrasions	major, deep, or with loss of body parts
7.	Fractures	deformed extremity, stable, closed	bone exposed, unstable, open
8.	Extremity sensation	any change in feeling, tingling, burning	loss of feeling (anesthetic)
9.	Extremity movement	any limitation of voluntary motion, or weakness	loss of functions (paralyzed)
10.	Mental state	excited, intoxicated	depressed, unconscious (coma)

Identify the most severe category and report in the order as listed (that is airway - obstructed with vomit, breathing - uneven, mental state - confused, etc.) Identify bleeding location, seriousness, and controllable; fracture sites, and amputation or near amputations.

TRAUMA NURSING

Spinal Cord Injury

I. Spinal Cord Injury - 85% male
15% female
Usual age group 18-25

- A. Spinal cord begins at foramen magnum - extends to L_{1+2}.
- B. Spinal cord injury - injuries to the cord are classified according to spinal cord level, not bony or vertebral level.
    1. inguinal line L_1
    2. umbilicus T_{10}
    3. nipple line T_5
    4. shoulder C_{4-5}
- C. Frequently associated with head injury - therefore any patient admitted with multiple injuries or head injury must be treated as a spinal-cord injured patient until proven otherwise.
- D. According to Dr. P. Bucy --
    1. 80% of spinal cord injury is caused by contusion of the spinal cord.
    2. If complete flaccid paralysis persists longer than 4-24 hours after injury with no sensation present, assume injury may be permanent.
    3. Most frequent sites of injury
        - a. C_{5-6}
        - b. T_{12}-L_1
        - c. Injury above C_3 will usually cause death due to paralysis of the diaphragm. (Innervated by C_3-C_4-C_5 - mostly by C_4).
- E. Type of Injury
    1. Flexion - blow across the shoulders or back of head; fall on buttocks - (Thoracic or lumbar injury)
    2. Flexion with rotation
    3. Vertical Compression - blow on top of head; fall from a high place.
    4. Extension - fall downstairs, forehead is struck and head jerked backwards.
    5. Direct - blow on the back (direct missile)
    6. Pathological fracture - osteoporosis in the elderly - primary or secondary tumors.

Spinal Cord Injury
Continued

F. Signs and Symptoms of spinal cord compression.

1. Loss of motor function below the level of the lesion.
2. Sensory loss below the level of the lesion.
3. May have respiratory difficulty.
4. May have pain at the level of the lesion.
5. Loss of sphincter (bowel and bladder) control.
6. May be associated with multiple trauma or head trauma.

G. Treatment

1. Aim of acute care
    a. Proper transport
    b. Maintenance of alignment
    c. Prevention of spinal cord damage
2. Cervical Injury
    a. Stablization of neck - halter or skeletal traction
    b. Insertion of crutchfield tongs and application of weights for stablization
    c. Fusion (anterior or posterior) - usually after acute stage
3. Thoracic Lumbar Injury
    a. Immobilization
    b. May be hperextended (roll under back) if ordered by the physician
4. Indications for Surgery
    a. Neuro deficit - (may be immediate)
    b. CSF block
    c. bullet
    d. Bony fragments in cord
    e. Persistant dislocation

    Usually not until acute stage over

H. Effects of Spinal Cord Injury
1. Paraplegia - usually involves lower extremities
2. Quadraplegia - usually involves all 4 extremities

I. Types of Injury
1. Concussion
    a. With or without vertebral damage
    b. No gross lesions demonstrable
    c. Paresis or paralysis - transient
    d. Complete recovery within minutes or hours
2. Contusion (may be equivalent to "severed cord")
    a. Hemorrhage and edema of cord
    b. Variable degree of paresis, spasticity, sensory changes and sphincter involvement

Spinal Cord Injury
Continued

3. Transection
    a. Gross interruption of continuity of cord. (Pathways may be severed from pressure, blood, edema).
    b. Loss of motor function below the level of the lesion.
    c. Loss of sensation below the level of the lesion.
    d. Loss of sphincter control.
    e. Complete areflexia.
4. Spinal Shock
    a. Interruption of functions of the spinal cord - duration depends upon degree of injury.
    b. Unaware of amount of damage until spinal shock passes.

J. Other effects of Spinal Cord Injury
  1. Parasympathetic nervous system
      a. Loss of sphincter control
      b. Peristolis stops
      c. Flaccidity of muscles
      d. Loss of sensation
  2. Sympathetic nervous system
      a. Decreased control circulation labile BP - bradycardia
      b. Decreased temperature
      c. No sweating below level of lesion
  3. Respiratory distress
      a. If cervical injury - no intercostal (chest) muscle innervation - will breathe abdominally
      b. If C_{3-4-5} may have decreased innervation to diaphragm
  4. Ineffective Cough
      a. Coughing is forceful expiration using abdominal muscles, to drive diaphragm up
      b. May need abdominal support (manually) to assist with cough.

II. Nursing Management

A. Proper handling and transport absolute necessity. Patients should be placed on board or flat surfaced stretcher.

B. Patients should always be handled as a "unit" - one piece - maintain alignment.

Spinal Cord Injury
Continued

C. Insure adequate ventilation

1. Evaluate ventilatory status
2. Blood gases as ordered
3. Ventilatory assistance when indicated
4. Intubation when necessary

D. Observe and record neurological status

1. Evaluate level of consciousness, pupil check, movement of extremities
2. Complete neuro check necessary as may have other injuries
3. Record accurately as the patient may require surgical intervention if rapid deterioration
4. Guideline for testing movement
    a. C_{5-6} can flex arms, but not extend
    b. C_{6-7} can flex and extend arms but no finger movement

E. Monitor vital signs

1. Many patients will have decreased BP, decreased P and decreased R
2. Any dramatic change in vital signs may indicate shock, hemorrhage, increased ICP, etc.

F. Immobilization

1. Use of turning frames at beds
    a. Stryker wedge - (best)
    b. Circo electric bed
    c. Egerton
2. If not on turning bed, specific turning instructions necessary from physician
3. Patients usually not turned for first 8-12 hours, then turned every 2 hours

G. Control of Emesis

1. If patients start to vomit, do not turn the head. Use wall suction
2. Physician may insert sump or nasograstic tube

H. Control of Pain

1. Usually mild
2. Usually controlled with mild analgesic - usually with codeine

Spinal Cord Injury
Continued

I. Medications usually used

1. Mannitol 1000 cc 10% over 6 hours
2. Decadron 10 mg. IV push then 3 mg. every 6 hours, then decreasing dose (Observe for gastric bleeding)

J. Passive Range of Motion

1. Usually ordered 2nd day
2. Confer with physician if not ordered

K. Good Skin Care

1. No sensation - skin care given after each turn
2. Necessary especially over bony preminences

L. Prevention of foot drop

1. Use of Spenco boots
2. Must be removed periodically as heels will break down

M. Observe kidney function

1. Decrease central circulation; therefore, decrease kidney function
2. Output should be at least 30 cc/hour

N. Emotional Care

1. Usually males (85%) age 18-25
2. Hair shaved if cervical injury with crutchfield tongs
3. Patients usually extremely anxious, and in "shock" and denial upon admission
4. All procedures must be explained
5. After several days post injury, many patients become hostile and depressed
6. Most patients undergo "anxious" period after transfer out of ICU

TRAUMA NURSING

EXAMINATION AND INTERPRETATION OF NEUROLOGICAL SIGNS AND SYMPTOMS

By

Stella Jensen, BSN

I. Essential Aspects to Consider in the Initial Nursing Assessment of a Neuro Patient.

Objective: To establish a baseline for future comparison.

1. Level of Consciousness
    - a. Orientation to name, time, place.
    - b. Assess if: awake, alert, lethargic, stuporous, comatose or semi-comatose.
    - c. If level of consciousness is depressed, does he respond to name calling? Pain? Loud noise?
2. General Behavior
    - a. Is he cooperative, friendly, frightened, tense, angry, depressed, euphoric.
    - b. Awareness of neuro problem; reaction to these problems.
    - c. How does he react to his own family, the hospital environment and personnel.
    - d. Does he have eccentricities in dress, manner, or gesture.
3. Speech and Language
    - a. Can he understand and communicate in spoken and written language.
    - b. Does he speak English.
    - c. Is speech spontaneous, fluent, slurred, or slow.

4. Vital Signs

   T.P.R.

5. Check admission Neuro Signs:

   a. Level of consciousness - orientation to name, time, place.

   b. Pupillary signs - check for:

      1. size
      2. equality
      3. reaction to light

   c. Motor and sensory function:

      If patient is alert: ask him to move all four extremities and test for strength of extremities by checking hand grips. On lower extremities, test for dorsiflexion. Check sensory function on all four extremities.

      If level of consciousness is depressed; watch for spontaneous movement of extremities. When checking sensory function, use pin or pinch, being careful not to cause hematoma, and watch for withdrawal of extremity and/or facial grimace.

   d. Vital signs.

   e. Signs of cranial nerve involvement.

      Ex. 3rd nerve - ptosis
      7th nerve - facial palsy

      Purposes for checking neuro signs:

      to determine:

      1. Presence or absence of nervous system malfunction.

      2. The location, type, and extent of nervous system lesion.

      3. In more acute cases to provide an hour by hour record of patient's neurological status and be forewarned of development of increased intracranial pressure.

f. Signs of increasing intracranial pressure.

An alert nurse who knows what symptoms to look out for may mean saving the patient's life and, most of all, saving his mental faculties. It's easy to look for signs of increased intracranial pressure, but the key is to look for signs of developing I.C.P.; it doesn't make sense to do something about it once it's too late and structural damage is irreversible.

Early signs:

1. Headache, nausea, vomiting, restlessness - due to stimulation or distortion of sensory nerve fibers in walls of vessels or meninges in the brain.
2. Increasing hemiparesis - tested by hand grips and drifting of elevated arms. On lower extremities test for dorsiflexion.

   Implication - possibility of worsening lesion on side of brain opposite from affected side.
3. Unequal pupils - sign of focal change. Marked enlargement of one pupil may be due to bruising or bleeding within the orbit, in the absence of brain damage.

   Marked dilation of one pupil and constriction of the other - may be due to uncalherniation, resulting in compression of the third nerve, manifested by ptosis.
4. Disorientation

Signs of further worsening:

1. Responsiveness - clearly deteriorates. For example; a disoriented, combative patient who gradually becomes "peaceful" and difficult to awaken. This alone is sufficient reason to call for prompt attention.

   For this reason, there is danger in the use of morphine and barbiturates for agitated patients as a diagnostic dilemma may result.

Implication: In head-injured patients an enlarging hematoma may be causing compression on a large area of the brain and displacing midline structures.

2. Vital signs:

   Pulse rate - slows due to increasing intracranial pressure (50 or ↓).

   Respiration - Cheyne Stokes respiration may be manifested. Ultimately the system fails and breathing ceases. This occurs last because the medulla is more resistant to anoxia than other parts of brain.

   B.P. - increases.

   Remember: ↑ BP, ↓ P, are extremely important warning signs and are the opposite of those customarily anticipated in shock.

3. Changes in focal motor ability - if manifested, is usually less striking than general changes in responsiveness and in P. and B.P.; nevertheless, they may be the first signs of a definite worsening of the patient, or may represent the first evidence of a new intracranial insult in a patient who was formerly quite alert.

4. Changes in response to painful stimuli:

   For example: painful stimuli not previously causing withdrawal, now causes legs to thrust in extension towards the stimuli. It implies that the cerebral hemisphere which had already lost ability to control body movement has finally lost ability to inhibit these primitive reflexes which have gained independent activity due to compression.

5. Changes in levels of consciousness, from alert to lethargic to stuporous, etc.

   Late, late signs:

   ↑ BP, ↓ P

   Bilaterally dilated pupils.
   Coma or clearly deteriorating level of consciousness.

Causes of Increased Intracranial Pressure

1. Brain tumor growing above the tentorium develops slowly.
2. Head injury - may develop rapidly.
3. Inflammatory disease - e.g., encephalitis, meningitis.
4. Edema of the brain.

    Ex.: acute nephritis
    arteriolar spasm
    malignant hypertension

5. Blockage in normal course of cerebrospinal fluid circulation.
6. Brain abscess.
7. As a complication of brain surgery.

Nursing Intervention

1. Do not restrain restless patients. Avoid shivering and nasal suctioning. } All these may increase agitation and rise in BP
2. Elevate head of bed - assists in venous return.
3. Know when to call the doctor.
4. Watch trend in vital signs.
5. Limit patient's activity.

Medical Management

1. Intravenous urea
2. Intravenous mannitol

} Both produce a rapid shrinkage in the brain due to great outpouring of urine but may cause acute dehydration.

3. Decadron, prednisone

Surgical Management

Sub-temporal decompression.

TRAUMA NURSING

I. Acidosis

1. Acidosis = ______________________ acid or _________ base.
2. The end products of respiration are excreted by ______________________.
3. The end products of metabolism are exreted by the ______________________.

   The lungs excrete acid in the form of ____________.
4. Acid may accumulate when there is abnormal _________ or abnormal ________________.
5. If a person breathes slowly or ineffectively, he will save/lose CO_2 .
6. So people who retain CO_2 will have ___________ acid. The state is known as ________________.
7. A substance that balances an acid is a ____________. The body's most important base is _________________.
8. Therefore, to correct ↑ acid, the kidneys save ______________________.

II. Alkalosis

1. Alkalosis = ______________________ base or __________ acid.
2. The kidneys can/cannot regulate base or bicarbonate.
3. When the kidneys save excess base or bicarbonate, ____________________ results.
4. The lungs can/cannot regulate base or HCO_3.
5. The lungs can/cannot regulate acid or CO_2.

III Metabolic Acidosis

1. Metabolic acidosis is caused by increased ____________.

   The acid comes from abnormal metabolism,

   Examples of diseases that cause metabolic acidosis.

   1.
   2.
   3.

2. The clinical signs of metabolic acidosis are:

   1.
   2.

3. The lungs can help the kidneys to excrete excess acid by losing it in the form of ____________________.

4. In metabolic acidosis you would expect to see:

   1. ____________ph
   2. ____________HCO_3

   The bicarbonate is ___↑___/___↓___ because the kidneys and lungs cannot keep up with the excess accumulation of acids.

IV. Metabolic Alkalosis

1. Metabolic alkalosis is caused by ↑ ________________.
2. Conditions that cause a loss of cl^- from the body:

   1.
   2.
   3.

   When cl^- is lost, HCO_3^- is saved to maintain body's balance.

3. Too much HCO_3^-, however, can cause ________________.
4. In excessive diuresis, k+ and cl^- are lost, HCO_3 is saved, ____________________results.

5. In excessive vomiting or GI suctioning, Hcl will be lost, HCO_3 saved, and ________________ will result.

6. Clinical signs of alkalosis are:

   1.
   2.

7. In metabolic alkalosis you would expect to see:

   ________________ ph

   ________________ HCO_3

V.

1. Respiratory acidosis = ____________________ CO_2

   ____________________ HCO_3

2. Examples of conditions causing ineffective respirations are:

   1.
   2.
   3.

3. Clinical signs of respiratory acidosis are:

   1.
   2.

4. Respiratory alkalosis would show ↓ / ↑ PCO_2.

5. Causes of respiratory alkalosis are:

   1.
   2.
   3.

6. In respiratory alkalosis the PH would be ↑ / ↓.

When analyzing blood gases, follow these steps.

Step 1 - Check the values: Note which are normal and which abnormal.

Step 2 - Check the ph: is the value above or below normal.

Note: ph ↓ = acidosis
ph ↑ = alkalosis

Step 3 - Check the values that reflect the metabolic part of the equation:

*HCO_3 and BE: Are they normal or ↑ or ↓ ?

Step 4 - Check the values that reflect the respiratory part of the equation:

*PCO_2 and PO_2: Are they normal?

Note: PCO_2 is important in evaluating acidosis or alkalosis.

PO_2 is important in evaluating hypoxia.

Step 5 - Make a diagnosis.

e.g. "respiratory acidosis"

Step 6 - Determine any compensatory mechanisms, e.g., metabolic compensation for respiratory acidosis.

Step 7 - Evaluate why patient presents with abnormal values.

Step 8 - Action to be taken?

e.g. (1) Correct underlying cause of imbalance.

(2) Pharmacologic intervention.

Interpret the following blood gas values.

Normal

ph 7.35 - 7.45

PCO_2 35-45

HCO_3 22-26

BE 0-2

PO_2 90-110

50-100

I. PH-7-15

PCO_2 -60

PO_2 -45

BE (-) 15

II PH - 7 - 28

PCO_2 - 30

PO_2 - 80

HCO_3 - 27.3

III. PH 7.35

HCO_3 29

PCO_2 60

BE + 9

PO_2 50

TRAUMA NURSING

TEST YOURSELF ON ADMINISTRATION AND PREPARATION OF I.V. MEDICATIONS

By

Stella Jensen, R.N., B.S.

1. State the action of the following drugs:

    Nipride ______________________________

    Epinephrine ______________________________

    Osmitral ______________________________

    Intropin ______________________________

    Xylocaine ______________________________

    Aramine ______________________________

    Levophed ______________________________

2. State an indication for each of above listed drugs:

3. Give one common adverse reaction to each of the following:

    1. Epinephrine ______________________________
    2. Xylocaine ______________________________
    3. Levophed ______________________________

TRUE OR FALSE

__________ 1. Adrenaline is used to restore cardiac rhythm even in patients with ventricular fibrillation.

__________ 2. It is safe to administer .2 - 1 cc of adrenaline sub-cu to an adult.

__________ 3. The sympathetic nervous system constricts the peripheral and coronary arteries.

__________ 4. An osmotic diuretic like mannitol works by blocking tubular reabsorption in the kidneys.

__________ 5. In patients receiving I.V. infused mannitol, oliguria may be expected to persist and poses no harm to the patient.

__________ 6. Hypertonic solutions of mannitol should not be infused simultaneously with whole blood as agglutination may result.

__________ 7. If crystals are noted in an amp. containing mannitol, it should be discarded.

__________ 8. A filter should be used when infusing mannitol 20%.

__________ 9. Xylocaine infusion is effective for management of atrial fibrillation.

__________ 10. In the event of severe adverse reaction affecting the C.N.S., short acting barbiturates and muscle relaxants could counteract the effects of Xylocaine.

__________ 11. 25 - 50 mg. per min. (1.2 - 2.5 cc/min.) is a safe dosage for Xylocaine given as direct I.V.

__________ 12. Aramine may be administered I.M., sub-cu, or I.V.

__________ 13. Cumulative effects are possible with prolonged use of I.V. infused aramine.

__________ 14. The antecubital vein is the preferred site for I.V. infused aramine.

__________ 15. When titrating the rate of aramine to increase the B.P., always allow 10 min. to elapse before increasing the dose.

__________ 16. Aramine may be incorporated with solutions other than NS and D_5W.

__________ 17. Levophed is better tolerated systemically than all other pressor agents.

__________ 18. Levophed is a very potent and powerful vasoconstrictor.

__________ 19. When initiating Levophed infusion, the nurse should check the B.P. every 2 min. until desired B.P. is obtained.

__________ 20. Headache may be a sign of hypertension due to Levophed overdosage.

__________ 21. Nipride's duration of action is very brief.

__________ 22. A prepared solution of nipride may be stored if covered with foil for 24 hours.

__________ 23. Nipride may be mixed with NS as an I.V. infusion.

__________ 24. Intropin can be mixed with any I.V. solution.

__________ 25. Diuretics potentiate the effects of intropin.

DOSAGE CALCULATION WORKSHEET:

1. The usual adult dose for I.V. infused mannitol is 50-100 g. in 24 hours.

   How Supplied: 50cc. ampuls containing 12.5 gms. mannitol.

   Dr.'s Order:

   Add 2 amps. mannitol in 500 cc. D_5W and infuse 4 gms./hr. Using a micro drip, the Registered Nurse should infuse __________ drops per min.

2. Intropin (Dopamine Hcl) is supplied in 5 cc. ampuls containing 200 mg.

   Suggested dilution:

   1. 5 cc. in 500 cc. of NS which will yield 400 mcg./cc.
   2. 5 cc. in 250 cc. of NS which will yield 800 mcg./cc.

   2-5 mcg./Kg/cc. is a safe initial dose for a patient.

   Dr.'s Order:

   Add 1 amp. intropin in 500 cc. NS and administer 3mcg./Kg/min.

   In a patient weighing 180 lbs. ____________cc's. should be given per min.

3. Aramine is supplied in 10cc. vials containing 100 mg. (10 mg./cc.)

   Recommended dose is 15 to 100 mg. in 500 cc. of NS, adjusting the rate of infusion to maintain the blood pressure at the desired level.

   Dr.'s Order:

   Add 1 amp. aramine to 500 cc. D_5W and titrate fluid rate to maintain B.P. between 100 - 120 systolic. Start infusion using 20 mg. aramine per hour. How many cc's. would contain 20 mg./hr.?

TRAUMA NURSING

BLOOD GAS DETERMINATIONS

Case History I

Mrs. A, a 60 year old female was admitted via ambulance with severe respiratory distress secondary to acute pulmonary edema. Blood gases were drawn and results showed:

PO_2	54
PCO_2	58
PH	7.29
HCO_3	27
BE	(-) 1

Interpretation:

Action Taken:

Three hours later her blood gas values read:

PH	7.35
PO_2	97
PCO_2	46
HCO_3	25

Interpretation:

BLOOD GAS DETERMINATIONS
Continued

The patient is then put on relatively large doses of diuretic. After several days K+ level is 3.7 and his blood gas values read:

PH	7.46
PO_2	97
PCO_2	46
BE	+7
HCO_3	32

Interpretation:

Action:

Case History 2

Mr. G. was admitted with a diagnosis of acute hemorrhage secondary to trauma to the left femur. His blood gas values read:

PH	7.36
PO_2	70
PCO_2	37
BE	-6
HCO_3^-	18

Interpretation:

Action:

BLOOD GAS DETERMINATIONS
Continued

Surgery was performed on the fractured femur. While in the recovery room, he was given 40% O_2 via nasal thongs. His blood gas values were:

PH	7.44
PO_2	138
PCO_2	48
BE	-4
HCO_3	28

Interpretation:

Action Taken:

Case History 3

Three year old Brian was admitted with severe nausea and vomiting. His blood gas values were:

PH	7.6
PO_2	65
PCO_2	60
HCO_3	36

Interpretation:

Action:

BLOOD GAS DETERMINATIONS
Continued

Mrs. T., a markedly obses woman in her early 40's, was admitted with weakness, somnolence, and ankle swelling of one year duration, all now progressively worse. Physical examination reveals her breathing was labored and shallow, her nail beds cyanotic. X-ray shows an enlarged heart and pulmonary arteries. Her blood gas values were:

PH	7.39
PO_2	40
PCO_2	64
HCO_3	37
BE	(+) 8

Interpretation:

Action Taken:

Review of the Cardiovascular System

True or False

_____ The right and left sides of the heart constitute two separate pumping systems.

_____ Blood flows from the superior and inferior vena cava into the left atrium.

_____ The tricuspid valve is situated between the right atrium and the right ventricle.

_____ Blood flows from the right ventricle to the pulmonary arteries.

_____ The mitral valve prevents blood in the pulmonary arteries from flowing back to the right ventricle.

_____ There are two pulmonary veins.

_____ Blood flows from the left ventricle into the aorta.

Name the five structures of the heart and lungs that make up the pulmonary circulation.

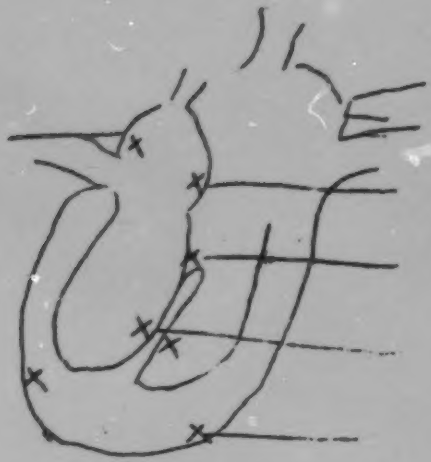
1.
2.
3.
4.
5.

Name the five structures that comprise the systemic circulation.

1.
2.
3.
4.
5.

What function do the four valves have as part of the complex pump system of the heart?

Trace the electrical impulse as it travels through the myocardium using numbers 1 - 5. Label the areas marked "x".



The ________________ nerve carries sympathetic fibers to the heart while the ______________________ nerve supplies parasympathetic fibers.

Stimulation of the sympathetic nerve has the following overall effect on the heart:

1.
2.
3.

Define cardiac output.

How much blood is pumped by the heart per minute?

List the parts that comprise the pulmonary system.

1.
2.
3.
4.
5.
6.

Exhange of gases occur in the ________________________.

Match the following arrythmias with their corresponding definition.

______ Ventricular fibrillation

______ Ventricular tachycardia

______ Atrial standstill

______ Paroxysmal tachycardia

______ Heart block

______ P.V.C.

A. An extremely fast atrial rhythm (150-300 per minute)

B. There is no stimulus, no response, and no contraction in the atria.

C. A ventricular rate of over 100 with pacemaking in the ventricles.

D. A conduction disturbance which is applied to various degrees, timing and rate of pathology.

F. A "death-dealing" arrythmia.

G. The S. A. node is replaced as a pacemaker by the cells in the ventricles.

Match the following patterns of respiration to their corresponding definition.

______ cheyne stokes

______ apnea

______ atoxic breathing

______ Kussmaul's breathing

______ tachypnea

______ hyperventilation

A. very rapid, possibly shallow

B. deep and rapid

C. absence of breathing

D. regularly alternating periods of rapid breathing and apnea.

E. deep breathing with long sighing exhalations characteristic of diabetic coma.

F. periods of apnea interspersed with rapid, shallow, irregular breathing.

TRAUMA NURSING

Instructor Evaluation

Date: ____________________

Topic(s): ____

____

Speaker: ____________________

Please rate the questions on a 1 - 6 scale, 6 being the highest.

A. Preparation

1. The instructor seemed knowledgeable on the material he/she presented. 1 2 3 4 5 6
2. The preparation was geared for the group. 1 2 3 4 5 6

B. Conduct

1. The content was presented clearly. 1 2 3 4 5 6
2. The ideas were well organized. 1 2 3 4 5 6
3. The use of audio-visual aids, handouts, etc. was beneficial. 1 2 3 4 5 6
4. The instructor was open to suggestions, comments, and questions. 1 2 3 4 5 6

C. Content

1. The content was pertinent to the objectives of the course. 1 2 3 4 5 6
2. You will be able to make practical use of the subject content on the job. 1 2 3 4 5 6

For those you rated 1 or 6, please make further comments on your rating. ____

____

____

Other comments: ____

____

____

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROJECT #318

EVALUATION FORM

Course # ____

In the lecture and discussion portion of the course, check below if:

1. Too little time was spent.
2. Time spent was adequate.
3. Too much time was spent in that specific area.

		1	2	3
1.	The Trauma System Concept	___	___	___
2.	Review of Cardiovascular System and Respiratory System	___	___	___
3.	Recognition and Management of Shock	___	___	___
4.	Volume Replacement			
	A. I.V. Solutions	___	___	___
	B. Blood Products	___	___	___
5.	Preparation and Administration of Drugs Used as I.V. Additions	___	___	___
6.	Biochemical Monitoring - C.V.P., P.A.P., P.W.P.	___	___	___
7.	Drug Intervention in Shock	___	___	___
8.	Fluids and Electrolytes	___	___	___
9.	Hyperalimentation Techniques	___	___	___
10.	Blood Gases	___	___	___
11.	Cardiopulmonary Resuscitation			
	A. Lecture	___	___	___
	B. Demonstration	___	___	___
	C. Practice Session	___	___	___

		1	2	3
12.	Mock Resuscitation	___	___	___
13.	EKG Monitoring and Lethal Arrythmias	___	___	___
14.	Assessment and Therapy of the Critically Ill or Injured	___	___	___
15.	Crisis Intervention	___	___	___
16.	Abdominal Injuries	___	___	___
17.	Auscultation	___	___	___
18.	Chest Trauma	___	___	___
19.	Genito-Urinary Injuries	___	___	___
20.	Head and Spinal Injuries	___	___	___
21.	Neurological Emergencies	___	___	___
22.	Eye Injuries	___	___	___
23.	Facial - Hand Injuries	___	___	___
24.	Musculo - Skeletal Injuries	___	___	___
25.	Radiology in Acute Trauma	___	___	___
26.	Cardiac Emergencies	___	___	___
27.	Intubation Procedure			
	A. Lecture	___	___	___
	B. Demonstration and Practice Session	___	___	___
28.	Poisoning	___	___	___
29.	Burns	___	___	___
30.	Pediatric Emergencies	___	___	___
31.	Maternal Emergencies	___	___	___
32.	Acute Drug Overdose	___	___	___
33.	Psychiatric Emergencies	___	___	___
34.	Legal Aspects	___	___	___
35.	Child Abuse	___	___	___

Check below the teaching methods you felt most valuable or least valuable.

	Of Little Value	Valuable	Very Valuable
A. Doctors' Lectures			
B. Nurses' Lectures or Discussions (List specific topic)			

	Of Little Value	Valuable	Very Valuable
C. Other Lectures or Discussions (List specific topic)			

D. Comments or Suggestions

	Of Little Value	Valuable	Very Valuable
E. Movies:			
Lillihei on Shock			
Decisions in Critical Care			
Prescription for Life			
A Life on the Line			
Acute Drug Overdose			
Hyperalimentation Techniques			
Pulmonary Complications in Shock			
F. Folder Containing Schedules and Hand-outs			
G. Work Sheets			
H. Pre-test			
Quiz			
Post-test			

Evaluation of Clinical Experience

(Includes demonstrations - mock or actual participation)

1. Of no value
2. Valuable
3. Very Valuable

	1	2	3
1. Participation in cardiopulmonary resuscitation			
A. Adult	___	___	___
B. Pediatric	___	___	___
2. Defibrillation	___	___	___
3. Intubation	___	___	___
4. Set up C.V.P. monitoring equipment	___	___	___

Evaluation of Clinical Experience (Con't.)

	1	2	3
5. Identify normal EKG patterns	___	___	___
6. Identify lethal arryhthmia	___	___	___
7. Interpret blood gases	___	___	___
8. Auscultation			
A. Heart	___	___	___
B. Chest	___	___	___
C. Abdomen	___	___	___
9. Care of chest tubes	___	___	___
10. Use of Sengstaken-Blakemore tube	___	___	___
11. Use of rotating tourniquets	___	___	___
12. Application of G-suit	___	___	___
13. Function as Triage Nurse	___	___	___

Do you feel that this training will improve your effectiveness in your own trauma unit? If so, how?

____

____

____

____

What are your expectations of a trauma nurse?

____

____

____

____

____

How do you hope to meet these expectations?

How do you plan to best utilize and build upon the training you have received?

Will you take an active part in the teaching programs for trauma (Continuing Education) at your hospital? If so, in what way?

Please briefly evaluate the course, giving any criticisms, comments, or suggestions.

How did you learn about the course?

____

____

What problems did you encounter in registering for the course?

____

____

____

What recommendations do you have regarding improving the publicity for the course?

____

____

____

____

Evaluation of Teaching Facility

	Yes	No
1. Did the facility provide adequate classroom space?	___	___
2. Did the facility provide necessary audio-visual equipment?	___	___
3. Did the facility provide those clinical experiences expected in order to meet the course objectives?	___	___

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROGRAM
PROJECT #318

REVISED DECEMBER 5, 1974

RECORD AND REPORTS SYSTEM

I. RECORDS

A. By individual course

1. Names of students
2. Addresses of students
3. Facilities represented
4. Positions represented
5. Average age of students
6. Cost of supplies, materials, printing, etc.
7. Evaluations of individual facilities, instructors, courses
8 Class schedules
9. Curriculum
10. Publicity formats
11. Copy of handout materials
12. Pre/post test scores
13. Problems encountered
14. Ethnic background
15. Social Security Number
16. Previous work experience
17. Generic education
18. Basic salary of nurse enrolled

B. Other

1. Student selection criteria
2. Faculty selection criteria
3. Flow chart of activities
4. Time sheets
5. Curriculum vitaes - staff and instructors
6. Mileage
7. Budget expenditures
8. Consultant forms

II. REPORTS

A. Budgetary (see flow chart)
B. Minutes of Advisory Committee Meetings
C. Summary Reports
D. Achievements and problems encountered from inception to completion of Project
E. Activities conducted for continuation of Project following termination of FRMP
F. Final Report
G. Final Modular Curriculum
H. Report back to facility

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TRAUMA NURSING
CURRICULUM

August 31, 1975

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This work was supported by the Florida Regional Medical Program under Title IV of the Public Health Act; however, the findings and conclusions reported herein do not necessarily represent the views of the PUBLIC HEALTH SERVICE.

FOREWORD

This curriculum was developed by Valencia Community College in conjunction with District #8, Florida Nurses Association as a contract with Florida Regional Medical Programs, Incorporated of Tampa, Florida.

As stipulated in the contract, a steering committee was selected to assist the project staff in development and evaluation of the program and to advise on curriculum content and format. Six committee meetings were held during the period of the contract. Following a final review by the committee, the curriculum was approved, printed, and prepared for distribution.

The project staff would like to thank the following person(s) for their contributions and support during the course of the project.

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MODULE III - MANAGEMENT OF SHOCK
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Unit 2 - Volume Replacement
Unit 3 - Biochemical Monitoring
Unit 4 - Pharmacological Intervention

Unit 5 - Principles of Acid Base Balance
and Blood Gas Analysis
Unit 6 - Fluid and Electrolyte Balance
and Hyperalimentation Techniques

MODULE IV - CARDIOPULMONARY RESUSCITATION
Unit 1 - Structure and Function of
Cardiovascular and Respiratory
Systems
Unit 2 - Cardiac and Respiratory Arrest
Unit 3 - Cardiopulmonary Resuscitation
Unit 4 - Management and Drug Therapy Used
in Cardiopulmonary Resuscitation
Unit 5 - Lethal Arrhythmias

MODULE V - ASSESSMENT AND THERAPY OF THE CRITICALLY
ILL OR INJURED PATIENT
Unit 1 - General Clinical Evaluation
Unit 2 - Initial Management
Unit 3 - Crisis Theory and Intervention
Techniques

MODULE VI - TRAUMA MANAGEMENT OF SPECIFIC ORGANS
Unit 1 - Head, Spinal, and Other
Neurological Emergencies
Unit 2 - Chest Trauma and Respiratory
Emergencies
Unit 3 - Abdominal and Genito-Urinary
Trauma

Unit 4 - Facial, Hand, and Eye Emergencies
Unit 5 - Musculo-Skeletal Emergencies
Unit 6 - Cardiac Emergencies

MODULE VII - ACUTE EMERGENCY NURSING CARE
Unit 1 - Poisoning
Unit 2 - Acute Drug Overdose
Unit 3 - Burns
Unit 4 - Water Accidents (Near Drowning)
Unit 5 - Pediatric Emergencies
Unit 6 - Obstetrical and Gynecological Emergencies
Unit 7 - Psychiatric Emergencies

MODULE VIII - LEGAL ASPECTS OF TRAUMA CARE
Unit 1 - Legal Implications
Unit 2 - Records and Reports

PART III - Appendix

Appendix A - Class Schedule
Appendix B - Pre/Post Test
Appendix C - Worksheets
Appendix D - Quiz on Arrhythmias
Appendix E - Handout Materials
Appendix F - Instructor Evaluation Form
Appendix G - Course Evaluation Form

PART I

INTRODUCTION

THE TRAUMA NURSING CURRICULUM

Central Florida is experiencing a population growth second to none in the nation. Growth brings with it many benefits. However, it also brings with it the problems of the metropolis; namely crime, public welfare, and the need for improved health services. A social equation may thereby be formulated: people equal accidents and the need for health care.

The Registered Nurse has long been in the forefront of the delivery of health care services, and the nurses employed in trauma areas (Emergency Room, Intensive Care Unit, Coronary Care Unit, and Industry) are without exception. Of the approximately 2,000 nurses employed in Orange, Osceola, and Seminole Counties, 65 per cent are employed in trauma areas. Theory and skills relevant to this specialization in nursing go beyond that of most generic educational programs. Whereas continuing education for nurses in other areas of specialization has been implemented, the Trauma Nurse, and Emergency Room Nurses in particular, have had minimal programs available to meet their continuing educational needs.

Having identified this problem, local professionals in the District #8, Florida Nurses Association and Valencia Community College submitted a request for funding of a project to meet these continuing education needs through the Florida Regional Medical Program. Funding was awarded for the period of October 1, 1974 to August 31, 1975.

The following modular curriculum is presented as part of the final report of this project.

For purposes of this curriculum, "Trauma Nursing" was defined as:

> "A new clinical specialty in which nurses through further education must be able to initiate treatment in life-threatening situations, frequently without a physician's order."*

and the "critically injured" was defined as:

> "A patient who has sustained a life-endangering injury. In addition, certain injuries such as severe eye damage, injuries to the hands and the feet, and massive facial lacerations, though not specifically life endangering, are critical in that they often result in considerable permanent disability."*

The curriculum was devised to meet the following course objectives:

Define Trauma Nursing and be able to adapt philosophies and policies for any hospital or trauma service.

List the pertinent observations needed to assess the critically ill patient.

Apply concept of triage in order to expedite care in trauma areas.

Interpret the role of the nurse in caring for patient with a psychiatric emergency requiring crises intervention in the emergency units.

Plan and implement nursing care relative to the assessment of the critically ill patient when given the medical diagnosis, or when assisting the physician in obtaining data relative to making a diagnosis.

Plan and implement nursing care of patients with specific problems of an emergency nature.

Show proficiency in cardiopulmonary resuscitation.

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*David Boyd, M.D., C.M. and Bruce Flashner, M.D., et.al. The Critically Injured Patient. Illinois Department of Public Health. p. 2.

Explain the need for and correct use of specific materials and equipment utilized in the care of trauma patients.

State principles basic to the nursing role in the management of an emergency department.

Identify the nurse's legal responsibilities in the areas of trauma nursing.

Be able to interpret blood-gas results.

Be able to interpret X-rays.

Be able to insert an endotracheal tube.

Be able to identify lethal arrhythmias and to perform defibrillation as needed.

Be able to identify auscultations of the head, chest, and abdomen.

USE OF THE MODULAR CURRICULUM

Modules I through VIII are arranged in a sequence allowing for a review of physiological concepts in the first part of the course. This provides an in-depth background of physiology which facilitates the study of trauma to specific organs and systems in the latter part of the course.

It is, therefore, recommended that this sequence be followed as much as feasible. Modules VI, VII, and VIII, however, may be taken up interchangeably to suit the availability of speakers. Modules I through V, as much as possible, should be taught in chronological order.

STUDENT ACTIVITIES RELATIVE TO THE CURRICULUM

REVIEW OF MAGAZINE ARTICLES

The instructor may select and assign additional reading of current literature pertaining to trauma nursing to individual students. The student then gives a 15 minute verbal presentation to the class. This allows a student the opportunity to study a specific subject in depth. It is felt that experiences of this nature allow a student to retain information more easily. This is done on a voluntary basis. A list of topics is presented by the instructor and the students volunteer to report on the subject matter of their choice.

CRISIS INTERVENTION

A session for informal discussion of practical applications of crisis intervention, theory, and technique follows the lecture on the same topic. This allows students the opportunity to explore their own feelings regarding their attitude as Emergency Room nurses toward crisis intervention. They also then are able to share feelings, opinions, and experiences regarding this.

MOCK RESUSCITATION

This is a graded return demonstration of advanced life support. This is given after Modules II, III, and IV have been covered, and the theoretical discussion of cardiopulmonary resuscitation, recognition of lethal arrhythmias, and performance of pre-cordial shock (defibrillation) have been finished. The actual return demonstration requires their recognition and appropriate reaction to the following arrhythmias:

- multiple prenature ventricular contractions
- ventricular fibrillation
- asystole

IDENTIFICATION OF LETHAL ARRHYTHMIAS

Two students at a time work together, one to perform ventilation, and one to perform artificial circulation. They are graded on the following points:

- recognition of rhythm on EKG monitor
- appropriate reaction for ventricula fibrillation
- defibrillation - machine is turned on, chest paddles applied to appropriate areas
- student yells "stand back" as she discharges current

For asystole

- summons help
- uses cardiac arrent board
- performs cardiac massage properly (correct ratio, placement of hand, and amount of pressure)

For the person performing ventilation

- good seal around patient's mouth
- proper ratio of breathing to cardiac massage
- proper positioning of rescuer in relation to patient
- hyperextension of neck

BLOOD GASES

A practice session on interpretation of blood gases is held. This is a series of three to four sets of blood gas results, including a brief history on each patient, that is given daily after the lecture on blood gases has been given. This takes 15 minutes of each day, usually first thing in the morning.

X-RAY INTERPRETATIONS

There is a practice session on interpretation of X-rays which is done in the X-ray Room of the Emergency Room during the Emergency Room clinical experience.

TRIAGE

Each student takes a turn during his/her clinical rotation in the Emergency Room, usually about 30 minutes.

RECOMMENDED FILMS, TEXTBOOKS, AND MAGAZINES

FILMS

"Lillihei on Stagnant Shock" - Upjohn

"Intravenous Hyperalimentation Techniques" - Abbott

"Decisions in Critical Care - The Cardiopulmonary Crisis" Abbott

"Treatment of Acute Drug Overdose" - Eli Lilly and Co.

TEXTBOOKS

Brunner, Lillian, R.N., M.S. and Doris Suddarth, R.N., M.S.N. The Lippincott Manual of Nursing Practice. Philadelphia: The J. B. Lippincott Co., 1974.

Condon, Robert, M.D., Editor. Manual of Surgical Therupeutics. Boston: Little, Brown & Co., 1969.

Eckert, Charles, M.D., Editor. Emergency Room Care, 2nd ed. Little, Brown & Co., 1971.

Findeiss, Clifford. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974.

Sharpe, John, M.D. and F. Marx, M.D. Management of Medical Emergencies. New York: McGraw Hill Book Co., 1969.

MAGAZINES

Emergency Medicine

Nursing '75

American Journal of Nursing

ALTERNATIVES TO COURSE SCHEDULING

The following schedules are suggested as alternatives for course instruction:

- 40 hours a week for two weeks (five 8-hour days)
- 10 hours a week for eight weeks (two 5-hour days)
- 8 hours a week for ten weeks (two 4-hour days)

ADAPTABILITY OF CURRICULUM TO NURSING GROUPS

It is highly recommended that Registered Nurses already working in trauma units (ER, ICU, CCU) should be given priority as the content of the course is geared toward nurses who already have a familiarity with the situations as well as the equipment discussed in the course. The course is not intended as a refresher course for nurses who have been away from the actual clinical setting. Registered Nurses who are employed in other specialty areas but are interested in taking the course may be granted admission, but should be informed that they may have to do a considerable amount of self study in order to meet the curriculum objectives.

PART II

MODULE I

TRAUMA SYSTEM CONCEPT

TRAUMA NURSING

Curriculum Content

MODULE I The Trauma System Concept

UNIT 1 The Trauma Problem

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Recognize the significance of a trauma unit and its role in community health.

II. Discuss the trauma problem as seen from local and nationwide accident statistics.

III. Discuss the concept of Emergency Medical Services System.

IV. Identify the roles of professionals and paramedics as part of the Emergency Medical Services System.

INSTRUCTIONAL CONTENT

I. The Trauma Problem
  A. Definition of "critically injured"
  B. Definition of "Emergency Medical Services System"

MODULE I The Trauma System Concept

UNIT 1 The Trauma Problem

INSTRUCTIONAL CONTENT (con't.)

II. Six Basic Components of the Emergency Medical Services System
    A. Discovery and notification
    B. Dispatch of help
    C. On-site care
    D. Transportation
    E. Initial care in emergency facility
    F. Definitive care

III. What We Learned From the Experience of the 1960's About the Emergency Medical Services System
    A. A centralized emergency operations center is possible and desirable.
    B. Suggested means of accomplishing a centralized system:
        1. Use of telephone-call boxes placed strategically throughout the city
        2. Using a "911" emergency number

IV. The Challenge of the 1970's
    A. More lives can be saved
    B. Days of confinement in hospitals may not be needed or may be lessened
    C. Direct cost to injured victim could be reduced

MODULE I The Trauma System Concept

UNIT 1 The Trauma Problem

INSTRUCTIONAL CONTENT (con't.)

V. Goals Necessary to Meet Challenge

A. A "911" system or similar system should be instituted nationwide.

B. There must be a central dispatch system.

C. There must be plans to:

1. Educate many more in Red Cross First Aid.
2. Educate many more in cardiopulmonary resuscitation.
3. Have mandatory programs for ambulance personnel using Emergency Medical Technician training standards.

D. Transportation facilities (ambulance) must have mandatory requirements for design and equipment.

E. There must be standards for Emergency Department physicians and facilities.

F. In definitive care - the following must be implemented:

1. The categorization of Emergency Departments and hospitals.
2. The establishment of centers of emergency care.

RECOMMENDED STRATEGIES

... Lectures

... Open discussion

MODULE I The Trauma System Concept

UNIT 1 The Trauma Problem

RESOURCE BIBLIOGRAPHY

Boyd, David, M.D., C.M., and Bruce Flashner, M.D., et.al. The Critically Injured Patient. Illinois Department of Public Health.

Eckert, Charles, M.D., Editor. Emergency Room Care, 2nd ed. Boston: Little, Brown & Co., 1971. p. 423.

Findeiss, Clifford, M.D., Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Florida Health Notes. Vol. 65, No. 10. (October, 1973).

Heart Facts 1974. American Heart Association.

MODULE I The Trauma System Concept

UNIT 2 The Role of the Professional and the Paramedic in the System

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Understand the concept of the Trauma Nurse Specialist.

II. Define Trauma Nursing and be able to adapt philosophies and policies as set by the Emergency Medical Services System for any hospital or trauma unit.

INSTRUCTIONAL CONTENT

I. The Changing Role of the Nurse
   A. In Coronary and Intensive Care Units
   B. In trauma
   C. Specialization in nursing

II. The Expanded Role of the Trauma Nurse
   A. Goes beyond what is normally defined as "nursing care"
   B. In the initial emergency situation
      1. Evaluation of patient
      2. Formulation of diagnosis
      3. Decision of need for immediate independent action; use of clinical judgment
      4. Utilization of advanced skills

MODULE I The Trauma System Concept

UNIT 2 The Role of the Professional and the Paramedic in the System

INSTRUCTIONAL CONTENT (con't.)

C. The nurse as the "Triage Officer"
   1. Determination of seriousness of injury or condition
   2. Evaluation and tentative diagnosis
   3. Screening and determination of destination; use of clinical judgment

D. Her role as communication nurse
   1. Functions - serves as liaison between physician and family
   2. Responsibilities

F. The Emergency Department Nurse Practitioner
   1. Performs history interview
   2. Performs initial physical examination
   3. Orders laboratory work and X-ray studies
   4. Initial treatment

G. The Emergency Department Inservice Instructor
   1. Functions
   2. Responsibilities

III. The Role of the Emergency Medical Technician in the Emergency Room

   A. History of the Emergency Medical Technician Program

MODULE I The Trauma System Concept

UNIT 2 The Role of the Professional and the Paramedic in the System

INSTRUCTIONAL CONTENT (con't.)

B. Functions of the Emergency Medical Technician
    1. On the scene
    2. In the Emergency Room

C. His training and qualifications

D. His responsibilities as it relates with the Registered Nurse's role and other members of the Emergency Room team.

RECOMMENDED STRATEGIES

... Lecture with discussion

... Hand-out material on same topic

RESOURCE BIBLIOGRAPHY

Aaron, James, F. Bridges, et.al. *First Aid and Emergency Care*. New York: The McMillan Co., 1972. p. 411.

Eckert, Charles, M.D., Editor. *Emergency Room Care*, 2nd ed. Little, Brown & Co., 1971. p. 423.

Emergency Medical Technician II Intermediate Curriculum. Developed by Miami-Dade Community College for Florida Regional Medical Programs Contract #127.

Findeiss, Clifford. *Emergency Medical Care*. New York: The Intercontinental Book Corp., 1974. p. 333.

Romano, Teri, R.N., B.S. *The Role of the Trauma Nurse*. Peoria: Trauma Nursing Course of Cook County.

MODULE I The Trauma System Concept

UNIT 3 The Process of Triage

INSTRUCTIONAL OBJECTIVES

The Nurse will:

Apply modern concepts of assessment and triage to expedite patient care.

INSTRUCTIONAL CONTENT

The Concept of Triage

A. Areas of responsibility

B. Special information

C. Guidelines for interacting therapeutically with families

D. Initial assessment of patients who come to the Emergency Room

RECOMMENDED STRATEGIES

... Lecture

... Hand-out material on "Triage Nurse"

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Ayres, Stephen, M.D., and Stanley Gianelli, Jr., M.D. Care of the Critically Ill. New York: Appleton, Century & Cross, 1967. p. 256.

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

MODULE II

SHOCK

MODULE II Shock

UNIT 1 Recognition of Shock

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Define shock and relate it to its specific etiology.

II. Identify the behavioral and physiological signs and symptoms of shock.

III. State the effects of decreased tissue perfusion to the body.

IV. Initiate and perform life-saving measures, and apply related nursing skills to prevent complications.

INSTRUCTIONAL CONTENT

I. Definition of Shock

II. Types

    A. Cardiogenic
    B. Anaphylactic
    C. Septic
    D. Hypovolemic
    E. Hemorrhagic

III. Four Common Denominators of Any Type of Shock

    A. Decreased venous return
    B. Decreased cardiac output
    C. Selective organ hypoperfusion
    D. Reflex neurohumoral adjustment

MODULE II Shock

UNIT 1 Recognition of Shock

INSTRUCTIONAL CONTENT (con't.)

IV. Clinical Signs and Symptoms
  A. Pallor
  B. Tachycardia
  C. Cloudy sensorium
  D. Marked oleguria
  E. Thirst
  F. Nausea and vomiting
  G. Cold, moist skin
  H. Restlessness

RECOMMENDED STRATEGIES

... Lecture; use of transparencies

... Movie: "Lillihei on Stagnant Shock"

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Bardicks, Katherine. Patterns of Shock, Implications for Nursing Care. New York: The MacMillan Co., 1965. p. 168.

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The International Book Corp., 1974. p. 333.

Stude, Carol. "Cardiogenic Shock," A.J.N. Vol. 74, No. 9. (September 1974) p. 1636.

MODULE II Shock

UNIT 1 Recognition of Shock

RESOURCE BIBLIOGRAPHY (con't.)

Wiley, Loy. "Shock: Different Kinds, Different Problems, Part 2," Nursing '74. Vol. 4, No. 5. (May 1974).

------, "Staying Ahead of Shock," Nursing '74. Vol. 4. (April 1974) pp. 18-27.

MODULE II Shock

UNIT 2 Physiological Mechanisms of Shock

INSTRUCTIONAL OBJECTIVES

The Nurse will:

- I. Discuss the physiology of shock.
- II. Relate the subsequent result of shock to its etiology.

INSTRUCTIONAL CONTENT

- I. Physiology of Shock
  - A. Three components that control balanced circulation
    - 1. Volume of circulating blood
    - 2. Resistance of peripheral vessels
    - 3. The rate and force of the heart's pumping
  - B. How hypoperfusion develops
    - 1. In hypovolemic shock
    - 2. In anaphylactic and septic shock
    - 3. In cardiogenic shock
  - C. End result
    - 1. Decreased tissue perfusion
    - 2. Reduced circulation
    - 3. Body cells deprived of O_2 and nutrients
- II. Nursing Intervention
  - A. Goal: To stay ahead of shock
    - 1. Anticipate shock before it develops
    - 2. Identify early signs and symptoms

MODULE II Shock

UNIT 2 Physiological Mechanisms of Shock

INSTRUCTIONAL CONTENT (con't.)

B. Four basic nursing functions

1. Monitor patient's condition; reverse any deficit that shock may have caused in cardiac output, blood volume, or peripheral resistance.
2. Monitor administration of medications, and be alert to possible undesirable effects.
3. Decrease patient's energy demands and provide psychological support.
4. Prevent complications, or at least recognize them when they occur.

RECOMMENDED STRATEGIES

... Lecture

... Discussion

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Bardicks, Katherine. Patterns of Shock, Implications for Nursing Care. New York: The MacMillan Co., 1965. p. 168.

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The International Book Corp., 1974. p. 333.

Stude, Carol. "Cardiogenic Shock," A.J.N. Vol. 74, No. 9. (September 1974) p. 1636.

MODULE II Shock

UNIT 2 Physiological Mechanisms of Shock

RESOURCE BIBLIOGRAPHY (con't.)

Wiley, Loy. "Shock: Different Kinds, Different Problems, Part 2," Nursing '74. Vol. 4, No. 5. (May 1974).

------, "Staying Ahead of Shock," Nursing '74. Vol. 4. (April 1974) pp. 18-27.

MODULE III

MANAGEMENT OF SHOCK

MODULE III Management of Shock

UNIT 1 Hemostasis

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Describe the mechanisms of hemostasis.

II. State the rationale for use of specific methods.

III. Discuss the consequences of improper utilization of specific hemostatic procedures.

INSTRUCTIONAL CONTENT

I. Principles of Hemostasis

II. Methods

  A. Direct pressure

  B. Use of tourniquets

  C. Use of pressure on specific arteries

  D. Use of G-Suit for intra-abdominal bleeding

III. Surgical Intervention

RECOMMENDED STRATEGIES

... Lecture

... Demonstration of pressure points with the use of transparencies

MODULE III Management of Shock

UNIT 1 Hemostasis

RESOURCE BIBLIOGRAPHY

Brunner, Lillian, R.N., M.S., Doris Suddarth, R.N., M.S.N. The Lippincott Manual of Nursing Practice. Philadelphia: The J. B. Lippincott Co., 1974. p. 1457.

Cole and Puestow. Emergency Care - Surgical and Medical, 7th ed. Meredith Corporation, 1972.

Findeiss, Clifford. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Sharpe, John, M.D., and F. Marx, M.D. Management of Medical Emergencies. New York: McGraw Hill Book Co., 1969. p. 756.

MODULE III Management of Shock

UNIT 2 Volume Replacement

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. State the rationale for use of specific I. V. solutions for volume replacement.

II. Demonstrate ability to apply accurate infusion and transfusion techniques.

III. Identify various blood products according to use, storage, components, and expected adverse effects.

IV. Identify signs of transfusion reaction and react accordingly.

INSTRUCTIONAL CONTENT

I. Guidelines for Selection of Intravenous Solutions to Administer
    A. Replace what was lost
    B. Consider the patient's history and response to therapy thus far
    C. Consider the results of hematocrit and electrolyte values

II. Rationale of Use of Specific I. V. Solutions
    A. Ringers lactate
    B. D5W
    C. Normal Saline

MODULE III Management of Shock

UNIT 2 Volume Replacement

INSTRUCTIONAL CONTENT (con't.)

D. Sodium Bicarbonate
E. Dextran

III. Blood Products

A. Types of blood products, their indications, actions, side effects, and storage considerations
  1. Whole blood and cellular products
    a. Whole blood
    b. Packed red blood cells
    c. Frozen red blood cells
    d. White blood cells
    e. Platelet concentrate
  2. Single donor plasma
    a. Fresh plasma
    b. Plasma removed from whole blood up to five days after twenty-one day expiration date
    c. Fresh frozen plasma
  3. Other plasma products
    a. Cryoprecipitate
    b. Fibrinogen
    c. Albumin
    d. Plasmanate

B. Infusion and transfusion techniques

MODULE III Management of Shock

UNIT 2 Volume Replacement

INSTRUCTIONAL CONTENT (con't.)

C. Transfusion reactions
   1. Signs and symptoms
   2. Management

RECOMMENDED STRATEGIES

... Lecture

... Demonstration

RESOURCE BIBLIOGRAPHY

Bahruth, April. "I.V. Fluids," *Nursing '73*. Vol. 3, No. 6. (June 1973) p. 32.

"Blood Products and Uses," *R.N. Magazine*. Vol. 30, No. 6. (June 1973).

Gohart, Betty L. *Intravenous Medication — A Handbook for Nurses and Other Allied Health Personnel*. St. Louis: The C. V. Mosby Co., 1973.

"A Guide to Admixture Compatibility - Part I," *R.N. Magazine*. Vol. 36, No. 10. (October 1973) p. 32.

------, "Part III," *R.N. Magazine*. (December 1973).

Meltzer, Abdellah, Kitchell. *Concepts and Practices of Intensive Care for Nurse Specialists*. Philadelphia: The Charles Press Publishers, Inc., 1969.

Moore, Virginia. "I.V. Fluids," *Nursing '73*. Vol. 3, No. 6. (June 1973) p. 32.

MODULE III Management of Shock

UNIT 3 Biochemical Monitoring

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. State the rationale for the use of biochemical monitoring devices, procedures, and tests.

II. State the rationale for the appropriate use of the above.

INSTRUCTIONAL CONTENT

I. Central Venous Pressure
    A. Definition
    B. Characteristics of venous pressure
        1. Much lower than arterial pressure
        2. Arterial pressure is pulsatile; venous pressure is steady
        3. CVP must be measured from a central vein
        4. CVP readings depend on relative position of the patient and the manometer
    C. Uses
        1. To determine state of hydration
        2. To determine cardiac function
    D. Technique of measurement of the venous pressure

MODULE III Management of Shock

UNIT 3 Biochemical Monitoring

INSTRUCTIONAL CONTENT (con't.)

- II. Pulmonary Artery Pressure
  - A. Definition
  - B. Procedure for setting up monitoring device
  - C. Uses
- III. Pulmonary Wedge Pressure
  - A. Definition
  - B. Technique for measurement of wedge pressure
  - C. Indications for its use
  - D. Normal readings
- IV. Arterial Monitoring
  - A. Definition
  - B. Procedure for initiating arterial monitoring device
  - C. Uses
  - D. Care of patient's arterial line

RECOMMENDED STRATEGIES

... Lecture

... Demonstration

... Participation in the use of monitoring devices in the critical care units

MODULE III Management of Shock

UNIT 3 Biochemical Monitoring

RESOURCE BIBLIOGRAPHY

Marchiondo, Kathleen. "CVP: The Whys and Hows of CVP Monitoring," Nursing '74. Vol. 4. (January 1974) pp. 21-24

Trought, Elizabeth. "Equipment Hazards," A.J.N. Vol. 73, No. 5. (May 1973) p. 858.

Stude, Carol. "Cardiogenic Shock," A.J.N. Vol. 74, No. 9. (September 1974) p. 1636.

Wiley, Loy. "Shock: Different Kinds, Different Problems, Part 2," Nursing '74. Vol. 4, No. 5. (May 1974).

------, "Staying Ahead of Shock," Nursing '74. Vol. 4. (April 1974) pp. 18-27.

MODULE III Management of Shock

UNIT 4 Pharmacological Intervention

INSTRUCTIONAL OBJECTIVES

The Nurse will:

- I. State the indications, actions, and side effects of drugs used in the treatment of shock.
- II. Compute drug dosages used as intravenous additives accurately.
- III. Prepare and administer drugs according to recommended techniques.

INSTRUCTIONAL CONTENT

- I. Types of Drugs Used in the Management of Shock, Their Indications, Actions, and Rationale for Use
  - A. Vasodilators
    - 1. Nipride
    - 2. Regitine
  - B. Vasopressors
    - 1. Aramine
    - 2. Levophed
    - 3. Intropin
    - 4. Epinephrine
  - C. Steroids (Solu-Medeol)
  - D. Electrolytes
  - E. Digitalis
  - F. Antibiotics

MODULE III Management of Shock

UNIT 4 Pharmacological Intervention

INSTRUCTIONAL CONTENT (con't.)

II. Nursing Care Aspects of Drug Therapy
   A. Monitor CVP, UO, and titrate IV fluids accordingly
   B. Watch for side effects such as arrhythmias and electrolyte imbalances
   C. Assess patient's clinical state and cardiac function to indicate effectiveness of therapy

RECOMMENDED STRATEGIES

... Lecture

... Use of worksheet on "Preparation and Administration of Drugs"

... Practice session in dosage calculation

RESOURCE BIBLIOGRAPHY

Bardicks, Katherine. Patterns of Shock, Implications for Nursing Care. New York: The MacMillan Co., 1965. p. 168.

"Diazoxide, Report on Rapid Reducer of Hypertension," Nursing '73. Vol. 3, No. 6. (June 1973).

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The International Book Corp., 1974. p. 333.

Gans, John. "Cardiac Drugs Today: Part 3, Digitalis Glycosides," Nursing '73. Vol. 3, No. 6. (June 1973).

Stude, Carol. "Cardiogenic Shock," A.J.N. Vol. 74, No. 9. (September 1974) p. 1636.

RESOURCE BIBLIOGRAPHY (con't.)

Wiley, Loy. "Shock: Different Kinds, Different Problems, Part 2," Nursing '74. Vol. 4, No. 5. (May 1974).

------, "Staying Ahead of Shock," Nursing '74. Vol. 4. (April 1974) pp. 18-27.

MODULE III Management of Shock

UNIT 5 Principles of Acid-Base Balance and Blood-Gas Analysis

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Demonstrate through discussion and understanding of the relationships of acid-base balance to normal and abnormal physiology.

II. Demonstrate ability to interpret blood-gas values and follow through with appropriate action.

III. State the purposes for doing blood gases.

INSTRUCTIONAL CONTENT

I. Purposes of Blood-Gas Determinations

II. Definition of Terms

  A. Acid
  B. Base
  C. PH
  D. PO_2
  E. % Saturation
  F. PCO_2
  G. HCO_3
  H. Base Excess
  I. Alkalosis
  J. Acidosis
  L. Buffer

III. Normal Blood-Gas Values

IV. PCO_2 - The Respiratory Parameter

  A. Respiratory abnormalities leading to respiratory acidosis or alkalosis
  B. Causes of respiratory acidosis
  C. Causes of respiratory alkalosis

MODULE III Management of Shock

UNIT 5 Principles of Acid-Base Balance and Blood-Gas Analysis

INSTRUCTIONAL CONTENT (con't.)

V. The Metabolic Component
    A. Causes of metabolic acidosis
    B. Causes of metabolic alkalosis
VI. Interpretation of Blood-Gas Values
VII. Compensation Versus Correction of Acid-Base Abnormalities

RECOMMENDED STRATEGIES

... Lecture

... Use of worksheet on "Understanding Blood Gases"

... Practice sessions on interpretation of blood gases

RESOURCE BIBLIOGRAPHY

Broughton, Joseph, M.D. Understanding Blood Gases. Ohio Medical Products - Medical Reprint Library. (August 1971).

"Bubble, Bubble, Worth the Trouble," Emergency Medicine. (May 1971).

Del Bueno, Dorothy. "Making Effective Use of Blood Gas Determination," R.N. Magazine. Vol. 37, No. 4. (April 1974) p. 40.

Seyfried, Marie. "Recognizing Respiratory Acidosis and Alkalosis," R.N. Magazine. Vol. 37, No. 7. (July 1974) p. 48.

MODULE III Management of Shock
UNIT 6 Fluid and Electrolyte Balance and Hyperalimentation Techniques

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Demonstrate through discussion an understanding of the relationship of fluids and electrolytes to normal and abnormal physiology.

II. State the rationale for the use of specific electrolytes in the management of electrolyte imbalances.

III. State the rationale for the use of hyperalimentation in the critically ill patient.

IV. Discuss the nursing management of the patient receiving hyperalimentation therapy.

INSTRUCTIONAL CONTENT

I. Principles of Fluid and Electrolyte Balance

  A. Definition of terms

    1. ACTH
    2. ADH
    3. Electrolyte
    4. Osmolality
    5. Osmolarity
    6. Osmosis
    7. Ketone bodies
    8. Anion
    9. Cation

MODULE III Management of Shock

UNIT 6 Fluid and Electrolyte Balance and Hyperalimentation Techniques

INSTRUCTIONAL CONTENT (con't.)

B. Physiological processes wherein electrolytes are involved
   1. The distribution of H_2O
   2. Osmotic pressure in the body
   3. Neuromuscular irritability
   4. Acid-base balance

C. Extracellular fluid volume excess
   1. History
   2. Symptoms
   3. Example
   4. Goal of therapy

D. Extracellular volume deficit
   1. Etiology
   2. History
   3. Symptoms
   4. Goal of therapy

E. Hyponatremia and hypernatremia
   1. History
   2. Symptoms
   3. Goal of therapy

MODULE III Management of Shock
UNIT 6 Fluid and Electrolyte Balance and Hyperalimentation Techniques

INSTRUCTIONAL CONTENT (con't.)

- F. Potassium deficit and excess
  - 1. Etiology and history
  - 2. Symptoms
  - 3. Medical therapy
- G. Calcium deficit and excess
  - 1. History
  - 2. Symptoms
  - 3. Medical therapy

II. Parenteral Hyperalimentation

- A. Physiology
- B. Biochemistry and pharmacology
- C. Basic composition of hyperalimentation formula
- D. Clinical applications
  - 1. In patients who cannot eat
  - 2. In patients who should not eat
  - 3. In patients who cannot or will not eat enough
  - 4. Miscellaneous conditions (diarrhea, renal failure, hepatic disease, peritonitis)
- E. Nursing care and implications

MODULE III Management of Shock

UNIT 6 Fluid and Electrolyte Balance and Hyperalimentation Techniques

RECOMMENDED STRATEGIES

... Lecture

... Handout material - "Fluid and Electrolyte Balance" and "Parenteral Hyperalimentation"

... Movie: "Intravenous Hyperalimentation Techniques"
Serial #J195, Abbott Film Service

RESOURCE BIBLIOGRAPHY

Burgess, Audrey. The Nurse's Guide to Fluid and Electrolyte Balance. New York: McGraw Hill Book Co., 1970. p. 110.

Condon, Robert, M.D., Editor. Manual of Surgical Therupeutics. Boston: Little, Brown & Co., 1969. p. 385.

Fluid and Electrolytes - Some Practical Guides to Clinical Use. 1970. Abbott Laboratories.

"Hyperalimentation: Major Nursing Challenge," R.N. Magazine. Vol. 36, No. 7. (July 1973) pp. 27, 28, 34.

Kee, Joyce. "Fluid and Electrolyte Imbalances," Nursing '72. Vol.2. (January 1972) pp. 22-23.

Lee, Carla. "Extracellular Volume Imbalance," A.J.N. Vol. 74. (May 1974) pp. 888-891.

MODULE IV

CARDIOPULMONARY RESUSCITATION

MODULE IV Cardiopulmonary Resuscitation

UNIT 1 Structure and Function of the Cardiovascular and Respiratory Systems

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Define the structure and function of the heart and the circulatory systems.

II. Define the structure and list the functions of the respiratory system.

III. Discuss the physiology of respiration.

INSTRUCTIONAL CONTENT

I. Review of the Structure and Function of the Pulmonary Circulation

II. Review of the Structures that Comprise the Systemic Circulation

III. Physiology of Respiration

IV. Structure and Function of the Respiratory System

RECOMMENDED STRATEGIES

... Lectures with discussion; use of transparencies

... Lecture; use of models and transparencies to identify parts of the respiratory system

... Worksheet

MODULE IV Cardiopulmonary Resuscitation

UNIT 1 Structure and Function of the Cardiovascular and Respiratory Systems

RESOURCE BIBLIOGRAPHY

Brunner, Suddarth, et.al. The Lippincott Manual of Nursing Practice. J. B. Lippincott Co., 1974.

Guyton, Arthur C., M.D. Textbook of Medical Physiology, 4th ed. Philadelphia: W. B. Saunders Co., 1971. p. 1032.

Hudak, Gallo, Sohr. Critical Care Nursing. J. B. Lippincott Co., 1973.

Storlie. Principles of Intensive Care Nursing. New York: Meredith Corp., 1970.

Wade, Jacqueline. Respiratory Nursing Care. J. B. Lippincott Co., 1973.

MODULE IV Cardiopulmonary Resuscitation

UNIT 2 Cardiac and Respiratory Arrest

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. State the clinical signs and symptoms of cardiac, respiratory, or cardiopulmonary arrest.
II. State the etiology in trauma.
III. State the effect of cardiopulmonary arrest on the body.
IV. Discuss changes in cardiopulmonary resuscitation standards.

INSTRUCTIONAL CONTENT

I. Types of Arrest
  A. Respiratory - patient is apneic
  B. Cardiac - patient has no palpable pulse
  C. Combined - patient is apneic and has no palpable pulse (cardiopulmonary arrest)
II. Recognition of Arrest
  A. Signs and symptoms
  B. Evaluation of respiratory and cardiac functions
III. Causes of Trauma Related to Respiratory and Cardiac Arrest
IV. Effect of Circulatory Arrest on Specific Organ System
  A. Brain
  B. Heart
  C. Kidneys
  D. Lungs

MODULE IV Cardiopulmonary Resuscitation

UNIT 2 Cardiac and Respiratory Arrest

INSTRUCTIONAL CONTENT (con't.)

V. New Standards of Cardiopulmonary Resuscitation and Emergency Cardiac Care. (American Medical Association Council on Cardiopulmonary Resuscitation)
  A. Basic life support
    1. Indications for basic life support
    2. Technique for witnessed cardiac arrest
    3. Technique for monitored cardiac arrest
    4. Indications and contraindications of pre-cardial stump
    5. Resuscitation of infants and children
    6. Resuscitation of patients with the following conditions
      a. Fracture of neck
      b. Foreign body in the airway
      c. Gastric distention
  B. Advanced life support
    1. Components of advanced life support
      a. Basic life support
      b. Adjunctive equipment and special techniques such as endotracheal intubation and open chest massage
      c. Cardiac monitoring
      d. Defibrillation
      e. I.V. infusion line

MODULE IV Cardiopulmonary Resuscitation
UNIT 2 Cardiac and Respiratory Arrest

INSTRUCTIONAL CONTENT (con't.)

C. Pitfalls in the performance of cardiopulmonary resuscitation

RECOMMENDED STRATEGIES

... Lecture with class discussion

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. *Early Care of the Injured Patient*. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Findeiss, Clifford, M.D. *Emergency Medical Care*. New York: The Intercontinental Book Corp., 1974. p. 333.

Kintzel, Kay Corman, Editor. *Advanced Concepts in Clinical Nursing*. Philadelphia: W. B. Saunders Co., 1971.

"Standards for Cardiopulmonary Resuscitation (C.P.R.) and Emergency Cardiac Care (E.C.C.)," *J.A.M.A*. Vol. 227, No. 7. (February 1974).

Ungvarski, Argondizzo, et.al. "C.P.R. Current Practice Revised," *A.J.N*. Vol. 75, No. 2. (February 1973) pp. 236-247.

MODULE IV Cardiopulmonary Resuscitation

UNIT 3 Cardiopulmonary Resuscitation

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Initiate and participate in the performance of resuscitative measures.

II. Show proficiency in cardiopulmonary resuscitation and defibrillation.

INSTRUCTIONAL CONTENT

I. Basic Life Support
  A. Indications for basic life support
  B. Components
II. Precordial Thump
  A. Indications
  B. Technique
    1. For witnessed cardiac arrest
    2. For monitored patients
III. Advanced Life Support
  A. Components
  B. Artificial ventilation techniques
  C. Artificial circulation techniques
IV. Pitfalls in the Performance of Cardiopulmonary Resuscitation

MODULE IV Cardiopulmonary Resuscitation

UNIT 3 Cardiopulmonary Resuscitation

RECOMMENDED STRATEGIES

... Lecture

... Demonstration of C.P.R. procedure utilizing basic and advanced life support methods as recommended by the A.M.A. Committee on C.P.R.

... Supervised return demonstration

... Handouts: "New C.P.R. Standards"
"Steps in Cardiopulmonary Resuscitation"

... Graded practical test using Arrhythmia Annie with difibrillator, and ambu bag with mask. Participants are brought into a room two at a time and graded on a scale of 1 - 10, based on their response to mock monitored cardiac arrest preceded by a ventricular fibrillation.

... Movie: "Prescription for Life"

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972.

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Kintzel, Kay Corman, Editor. Advanced Concepts in Clinical Nursing. Philadelphia: W. B. Saunders Co., 1971.

RESOURCE BIBLIOGRAPHY (con't.)

Pribble, Alan, M.D., and Martha Tyler, R.N. "Emergency! On-the-Spot Cardiopulmonary Resuscitation, Part I," Nursing '75. Vol. 5, No. 2. (February 1975) pp. 45-53.

"Standards for Cardiopulmonary Resuscitation (C.P.R.) and Emergency Cardiac Care (E.C.C.)," J.A.M.A. Vol. 227, No. 7. (February 1974).

Ungvarski, Argondizzo, et.al. "C.P.R. Current Practice Revised," A.J.N. Vol. 75, No. 2. (February 1973) pp. 236-247.

MODULE IV Cardiopulmonary Resuscitation

UNIT 4 Management and Drug Therapy Used in Cardiopulmonary Resuscitation

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Identify the appropriate drug therapy indicated in asystole and in ventricular fibrillation.

II. Discuss the indications, actions, and side effects of drugs used in cardiopulmonary resuscitation.

III. Demonstrate through discussion an understanding of the techniques of drug administration.

IV. Perform defibrillation procedure appropriately.

INSTRUCTIONAL CONTENT

I. Types of Drugs Used in Cardiopulmonary Resuscitation, Their Indications, Actions, Recommended Dosages, and Methods of Administration

   A. Sodium bicarbonate
   B. Epinephrine
   C. Atropine sulfate
   D. Lidocaine
   E. Calcium chloride
   F. Oxygen
   G. Digitalis

MODULE IV Cardiopulmonary Resuscitation

UNIT 4 Management and Drug Therapy Used in Cardiopulmonary Resuscitation

INSTRUCTIONAL CONTENT (con't.)

II. Pre-cordial Shock - Indications, Technique, Precautions
   A. Defibrillation
   B. Cardioversion

RECOMMENDED STRATEGIES

... Lecture

... Use of transparency to demonstrate differences in procedure and technique for pre-cordial shock

... Graded practical test - response to mock resuscitation

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972.

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Kintzel, Kay Corman, Editor. Advanced Concepts in Clinical Nursing. Philadelphia: W. B. Saunders Co., 1971.

Pribble, Alan, M.D, and Martha Tyler, R.N. "Emergency! On-the Spot Cardiopulmonary Resuscitation, Part I," Nursing '75. Vol. 5, No. 2. (February 1975) pp. 45-53.

Standards for Cardiopulmonary Resuscitation (C.P.R.) and Emergency Cardiac Care (E.C.C.)," J.A.M.A. Vol. 227, No. 7. (February 1974).

Ungvarski, Argondizzo, et.al. "C.P.R. Current Practice Revised," A.J.N. Vol. 75, No. 2. (February 1973) pp. 236-247.

MODULE IV Cardiopulmonary Resuscitation

UNIT 5 Lethal Arrhythmias

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the basic principles for EKG monitoring.

II. Demonstrate through discussion a basic understanding of vector cardiography.

III. Identify lethal arrhythmias and state management for each.

IV. Apply EKG chest leads correctly.

INSTRUCTIONAL CONTENT

I. Principles of EKG Monitoring
  A. Indications
  B. Equipment
  C. Placement of leads
II. The Normal EKG
  A. How electrical impulse is transmitted through the myocardium
  B. The normal EKG pattern
III. Identification of Lethal Arrhythmias
  A. Premature ventricular contraction
  B. Variations of PVC's
  C. Ventricular tachycardia
  D. Ventricular fibrillation
  E. Asystole

MODULE IV Cardiopulmonary Resuscitation

UNIT 5 Lethal Arrhythmias

RECOMMENDED STRATEGY

... Lecture

... Use of posters demonstrating the normal EKG pattern and the transmission of electrical impulse

... Use of transparencies to demonstrate various arrhythmias

... Use of worksheet

... Written test is given after the series of four lectures

RESOURCE BIBLIOGRAPHY

Beaumont, Estelle, R.N. "ECG Telemetry," Nursing '74. Vol. 4, No. 7. (July 1974) pp. 27-34.

Butler, Herbert, M.D. "How to Read an ECG, Part I," R.N. Magazine. (January 1973).

------, "Part II," R.N. Magazine. (February 1973).

Condon, Robert, M.D., Editor. Manual of Surgical Therupeutics. Boston: Little, Brown & Co., 1969. p. 385.

Meltzer, Abdullah, Kitchell, Editors. Concepts and Practices of Intensive Care for Nurse Specialists. Philadelphia: The Charles Press Publishers, Inc., 1969. p. 469.

------, Lawrence, et.al. Intensive Coronary Care - A Manual for Nurses. Philadelphia: The Charles Press Publisher, Inc. 1970. p. 230.

"Standards for Cardiopulmonary Resuscitation and Emergency Cardiac Care," Supplement to J.A.M.A., Vol. 227, No. 7. (February 1974).

MODULE V

ASSESSMENT AND THERAPY OF CRITICALLY ILL OR INJURED PATIENT

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 1 General Clinical Evaluation

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the patho-physiological concepts relative to the assessment and therapy of the critically injured or acutely ill patient.

II. Obtain pertinent data regarding patient's history.

III. Perform initial physical examination in the absence of a doctor, and determine the need for appropriate consultation.

INSTRUCTIONAL CONTENT

I. Evaluation of Patient
  A. Patency of airway
  B. Adequacy of respiration
  C. Cardiac function
  D. State of consciousness
  E. Degree of shock
  F. Control of hemorrhage
  G. Status of open wound

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 1 General Clinical Evaluation

INSTRUCTIONAL CONTENT (con't.)

II. Patient's History, If Obtainable
    A. Time of injury - very important
    B. Mechanism of injury
    C. Specific complaints presently displayed
    D. Past illnesses
    E. Allergies

III. Physical Examination and Initial Therapy
    A. Neurological signs
        1. Level of conciousness
        2. Pupillary signs
        3. Motor and sensory functions
        4. Signs of cranial nerve involvement
        5. Signs of spinal injury and cord involvement

RECOMMENDED STRATEGIES

... Lecture with discussion; sample case presentation

... Lecture; role playing

... Lecture with discussion; case presentation allowing student to apply principles discussed during lecture.

... Lecture

... Hand-out: "Nurse's Evaluation of a Critically Injured Patient"

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 1 General Clinical Evaluation

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. *Early Care of the Injured Patient*. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Findeiss, Clifford, M.D., Editor. *Emergency Medical Care*. New York: The Intercontinental Book Corp., 1974. p. 333.

Hudak, Carolyn, et.al. *Critical Care Nursing*. Philadelphia: J. B. Lippincott Co., 1973.

Lowe, Robert, M.D., Teresa Boyd, B.S.N., and David Boyd. "Initial Care - of Critically Injured." *Illinois Medical Journal*. May 1972.

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 2 Initial Management

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Perform initial physical examination in the absence of a doctor, and determine the need for appropriate consultation.

II. Initiate nursing intervention for life-saving purposes as well as to prevent complications.

III. Implement "team concept" in the assessment and therapy of the critically ill or injured patient.

INSTRUCTIONAL CONTENT

I. Neurological Signs
    A. Level of conciousness
    B. Pupillary signs
    C. Motor and sensory functions
    D. Signs of cranial nerve involvement
    E. Signs of spinal injury and cord involvement
II. Cardiac Function
    A. Check pulses for rate, quality, equality
    B. Color

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 2 Initial Management

INSTRUCTIONAL CONTENT (con't.)

III. Respiratory Function
  - A. Check respirations for rate and quality
  - B. Check trachea for obstruction - make sure it is in midline position
  - C. Check sternum for fractured ribs

IV. Check for Other Possible Injuries
  - A. Abdominal
  - B. Pelvic
  - C. Extremities
  - D. Vertebral column

V. "Team Concept" to be Implemented
  - A. Nurse's responsibilities
    1. Performs initial examination in absence of doctor, and determines need for appropriate consultation
    2. Assists doctor with all emergency procedures
    3. Records all information
    4. Remains with patient until transferred to surgery or nursing unit

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 2 Initial Management

INSTRUCTIONAL CONTENT (con't.)

B. Doctor's responsibilities

1. Performs initial examination
2. Calls consult as deemed necessary
3. Initiates therapy
4. Coordinates all patient's activities

RECOMMENDED STRATEGIES

... Lecture with discussion; sample case presentation

... Lecture; role playing

... Lecture with discussion; case presentation allowing student to apply principles discussed during lecture.

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Findeiss, Clifford, M.D., Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Hudak, Carolyn, et.al. Critical Care Nursing. Philadelphia: J. B. Lippincott Co., 1973.

Lowe, Robert, M.D., Teresa Boyd, B.S.N., and David Boyd. "Initial Care - of Critically Injured." Illinois Medical Journal. May 1972.

Platt, Frederick, M.D. Case Studies in Emergency Medicine. Little, Brown & Co., 1974. p. 227.

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 3 Crisis Theory and Intervention Techniques

INSTRUCTIONAL OBJECTIVES

The Nurse will:

- I. Identify what generates a crisis situation for a given individual or family.
- II. Discuss the implications of crisis theory for nursing.
- III. Identify the phases in resolution of a crisis and nursing intervention for each phase.
- IV. Discuss death as a crisis.

INSTRUCTIONAL CONTENT

- I. Definition of Crisis
  - A. Formula for crisis
  - B. Upset in a steady state
  - C. Response to a real or perceived threat to self
  - D. Habitual problem-solving methods and/or coping mechanisms are no longer effective
  - E. Call to new action
  - F. Threat producing
  - G. Growth producing

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 3 Crisis Theory and Intervention Techniques

INSTRUCTIONAL CONTENT (con't.)

II. Events Generating a Crisis
  A. Event viewed as hazardous
  B. Threat to a need, linked with an earlier threat that resulted in conflict
  C. Inability to respond with adequate coping mechanisms

III. Classifications of Crisis
  A. Situational
  B. Maturational
  C. Additions, deletions, and/or demoralization of the family
  D. Stresses involving status shifts
  E. Other

IV. Implications of Crisis Intervention Theory for Nursing
  A. The nurse in a position to assess the situation and define meaning of event for the individual
  B. Knowledge of resources
  C. Can prevent a crisis or assist in the successful resolution of a crisis

V. Phases of Crisis Resolution with Nursing Intervention
  A. Shock
    1. Behaviors seen
    2. Initial assessment

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 3 Crisis Theory and Intervention Techniques

INSTRUCTIONAL CONTENT (con't.)

3. Gathering of resources
4. Encourage discussion of event

B. Realization
1. Behaviors seen
2. Assess anxiety and medicate as ordered
3. Stress use of resources
4. Frequent explanations

C. Defensive retreat
1. Behaviors seen
2. Denial and its use
3. Point out physical parallels
4. Anger seen as 'healthy"
5. Assist in setting realistic goals
6. Point out attainments of short-term goals

D. Acknowledgment
1. Behaviors seen
2. Encourage expression of feelings
3. Review coping ability
4. Assist in setting realistic goals

MODULE V Assessment and Therapy of the Critically Ill or Injured Patient

UNIT 3 Crisis Theory and Intervention Techniques

INSTRUCTIONAL CONTENT (con't.)

- E. Adaptation
    - 1. Behaviors seen
    - 2. Point out new behaviors
    - 3. Discuss crisis process
    - 4. Discuss helpful resources
- VI. Death as a Crisis
    - A. Phases of resolution
    - B. Nursing intervention
        - 1. Provide for element of hope
        - 2. Alleviate fear of being alone

RECOMMENDED STRATEGIES

- ... Lecture
- ... Discussion
- ... Overhead projection

RESOURCE BIBLIOGRAPHY

Parad, Howard J. Crisis Intervention - Selected Readings. Family Service Association of America, New York. 1967.

MODULE VI

TRAUMA MANAGEMENT OF SPECIFIC ORGANS

MODULE VI Trauma Management on Specific Organs

UNIT 1 Head, Spinal, and Other Neurological Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the pathophysiological concepts relative to the evaluation and management of the patient with head and spinal injuries.

II. Initiate nursing intervention for life-saving purposes as well as for prevention of complications.

III. Apply advanced clinical skills relative to assisting the physician in implementing diagnostic and therapeutic measures.

IV. Discuss the pathophysiology, clinical manifestations, and management of a patient with acute cerebrovascular accident and convulsive disorders.

V. Discuss the pathophysiological concepts relative to the care of a patient in coma.

INSTRUCTIONAL CONTENT

I. Head Injuries
  A. Review of structure and function of the Central Nervous System
  B. Assessment
    1. Patency of airway
    2. Neurological signs - interpretation of neurological signs

INSTRUCTIONAL CONTENT (con't.)

3. Palpation to assess existence of skull fracture and/or scalp lacerations
4. X-ray interpretations

C. Types of head injuries
1. Penetrating
    a. Gun-shot wounds
    b. Trauma
2. Non-penetrating
    a. Epidural hematoma
    b. Subdural hematoma
    c. Sub-arachnaid hematoma
    d. Concussion
    e. Contusion
    f. Coup

D. Possible complications
1. Brain damage
2. Increased intracranial pressure
3. Infection

II. Spinal Injuries

A. Review of structure and function of spinal vertebrae and spinal cord

INSTRUCTIONAL CONTENT (con't.)

B. Types of injuries
   1. Flexion
   2. Flexion with rotation
   3. Vertical concussion
   4. Extension
   5. Direct blow
   6. Pathological fracture

C. Signs and symptoms of spinal cord involvement

D. Treatment
   1. Aim of acute care
   2. Cervical injury
      a. Stabilization of neck
      b. Crutchfield tongs
      c. Fusion
   3. Thoraco-Lumbar
      a. Immobilization
      b. Activities permitted patient
   4. Indication for surgery

E. Effects of spinal cord injury
   1. Concussion
   2. Contusion
   3. Transection
   4. Spinal shock

INSTRUCTIONAL CONTENT (con't.)

F. Nursing management
    1. Proper handling and transportation
    2. Maintenance of adequate ventilation
    3. Observation of neurological status
    4. Monitoring vital signs
    5. Immobilization
    6. Control of emesis
    7. Control of pain
    8. Emotional support

III. Types of Neurological Emergencies

A. Acute C.V.A. (cerebro-vascular accident)
    1. Pathophysiology
    2. Clinical manifestations
    3. Treatment
    4. Prognosis

B. Convulsive disorders
    1. Types of convulsive disorders
    2. Manifestations
    3. Management

C. Evaluating the patient in coma
    1. Immediate emergency procedures
    2. The physical examinations

MODULE VI Trauma Management on Specific Organs

UNIT 1 Head, Spinal, and Other Neurological Emergencies

INSTRUCTIONAL CONTENT (con't.)

- 3. The neurological examination of the unconscious patient
  - a. Vital signs
  - b. Respiratory patterns
  - c. Posture and position in bed
  - d. Doll's head maneuver and ice water caloric test
  - e. Eyes, pupils, movement of extremities
  - f. Reflexes
  - g. Lumbar puncture

D. Myasthenia gravis

- 1. Pathophysiology
- 2. Clinical manifestations
- 3. Emergency management

RECOMMENDED STRATEGIES

... Lecture

... Use of transparencies to portray types of head injuries

... Demonstration of techniques for spinal immobilization and techniques in handling and transporting patients.

... Presentation of X-rays of spinal cord injuries.

... Hand-out: "Spinal-cord Injury"

MODULE VI Trauma Management on Specific Organs

UNIT 1 Head, Spinal, and Other Neurological Emergencies

RESOURCE BIBLIOGRAPHY

Cole and Puestow. Emergency Care - Surgical and Medical. New York: Meredith Corporation, 1972. p. 438.

Culp, Patricia, R.N. "Nursing Care of the Patient with Spinal-Cord Injury," Nursing Clinics of North America. Vol. 2, No. 3. (September 1967).

Eckert, Charles, M.D., Editor. Emergency Room Care. Boston: Little, Brown & Co., 1971. p. 423.

Erickson, Roberta. "Cranial Check," Nursing '74. Vol. 4. (August 1974) pp. 67-72.

Findeiss, Clifford, M.D, Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Hinkhouse, Ann. "Craniocerebral Trauma," A.J.N. Vol. 73, No. 10. (October 1973) pp. 1719-1722.

"An Injured Skull," Emergency Medicine. Vol. 7, No. 1. (January 1975) pp. 59-62.

"Junior Neuro-Emergencies," Emergency Medicine. Vol. 7, No. 1. (January 1975) pp. 206-207.

Meltzer, Abdullah, Kitchell. Concepts and Practices of Intensive Care for Nurse Specialists. The Charles Press Publishers, Inc., 1969. p. 469.

Merritt, Houston. A Textbook of Neurology, 5th ed. Sea and Faberger, 1970.

"Nursing Grand Rounds - Coma," Nursing '74. Vol. 4, No. 5. (May 1974) pp. 24-29.

Swit, Nancy, R.N. "Head Injury! Essentials of Excellent Care," Nursing '74. Vol. 4, No. 9. (September 1974) pp. 26-33.

MODULE VI Trauma Management of Specific Organs

UNIT 2 Chest Trauma and Respiratory Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the physiologic approach to the assessment and therapy of the patient sustaining thoracic trauma.

II. Plan and implement nursing care relative to the needs of the patient with chest trauma.

III. Demonstrate through discussion an understanding of the principles behind the use of water seal chest drainage.

IV. Discuss the pathophysiological concepts relative to the assessment and therapy of the critically ill patient with respiratory distress.

V. Implement advanced clinical skills for patients with respiratory emergencies.

VI. Acquire skills necessary to intubate a patient during life threatening situations.

INSTRUCTIONAL CONTENT

I. Assessment
    A. Auscultation
    B. General physical examination
    C. Laboratory and X-ray studies

MODULE VI Trauma Management of Specific Organs

UNIT 2 Chest Trauma and Respiratory Emergencies

INSTRUCTIONAL CONTENT (con't.)

II. Classifications of Chest Injuries
   A. Penetrating
      1. Stab wound
      2. Gun-shot wound
   B. Non-penetrating

III. Management of Chest Injuries
   A. For all types
      1. Maintenance of patent airway
         a. Endotracheal intubation
         b. Tracheostomy
   B. For specific types
      1. Splinting
      2. Flail chest
      3. Hemothorax
      4. Pneumothorax
      5. Cardiac tamponade
   C. Use of chest suction
      1. Types of chest suction equipment
      2. Care of patient with chest tubes

IV. Indications for Surgery
   A. Bleeding following chest drainage and blood replacement
   B. Gun-shot wounds

MODULE VI Trauma Management of Specific Organs

UNIT 2 Chest Trauma and Respiratory Emergencies

INSTRUCTIONAL CONTENT (con't.)

C. Injury to major blood vessels

D. Rupture of the diaphragm

E. Uncontrolled pneumothorax

RECOMMENDED STRATEGIES

... Lecture

... Use of transparencies portraying types of chest injuries

... Demonstration of chest suction equipment

... Lecture

RESOURCE BIBLIOGRAPHY

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MODULE VI Trauma Management of Specific Organs

UNIT 2 Chest Trauma and Respiratory Emergencies

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Van Meter, Margaret, R.N. "Chest Tubes - Basic Techniques for Better Care," Nursing '74. Vol. 4, No. 12. (December 1974) pp. 48-56.

MODULE VI Trauma Management of Specific Organs

UNIT 3 Abdominal and Genito-Urinary Trauma

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Assess extent of abdominal injury and its impact on the patient.

II. Initiate initial nursing intervention and make appropriate consultation.

III. Perform initial assessment of patient with genito-urinary injuries and other urological emergencies.

IV. Apply clinical skills to prevent complications and determine the need for appropriate consultation.

INSTRUCTIONAL CONTENT

I. Review of Anatomy of Abdominal Organs and Genito-Urinary System
    A. Upper G-I system
    B. Lower G-I system
    C. Liver, spleen, pancreas
    D. Kidney, ureter, bladder
    E. Male and female reproductive organs

II. Assessment
    A. Clinical manifestations of hemorrhage and peritonitis
    B. Auscultation and palpation of abdomen

MODULE VI Trauma Management of Specific Organs

UNIT 3 Abdominal and Genito-Urinary Trauma

INSTRUCTIONAL CONTENT (con't.)

C. Laboratory studies and diagnostic examinations
   1. Abdominal paracentesis
   2. Serum amylase
   3. WBC, Hgb, Hct
   4. X-ray examinations

III. Initial Management
   A. Life-saving measures as indicated
   B. Control of hemorrhage
   C. Care of patient with protruded abdominal viscus
   D. Keep accurate record of vital signs
   E. Insert Foley catheter
   F. Tetanus prophylaxis
   G. Preparation for surgery

IV. Management of Other Urological Emergencies
   A. Renal colic
   B. Acute urinary retention
   C. Foreign bodies
   D. Paraphymasis

RECOMMENDED STRATEGIES

... Lecture

... Use of transparency

... Case presentation followed with discussion and comment

MODULE VI Trauma Management of Specific Organs

UNIT 3 Abdominal and Genito-Urinary Trauma

RESOURCE BIBLIOGRAPHY

Aaron, James, et.al. First Aid and Emergency Care. New York: The McMillan Co., 1972. p. 411.

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Shires, Tom, M.D., Editor. Care of the Trauma Patient. McGraw-Hill, 1966. p. 696.

MODULE VI Trauma Management of Specific Organs

UNIT 4 Facial, Hand, and Eye Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the pathophysiological concepts relative to the evaluation and therapy of a patient with facial, hand, eye, and ear injuries.

II. Initiate nursing measures to prevent complications and assist the physician in the management of the injured patient.

INSTRUCTIONAL CONTENT

I. Facial Injuries
  A. Assessment
    1. History
    2. Nature of accident
    3. General examination - palpation, inspection
  B. Initial management
    1. Maintain adequate airway
    2. Prevent hemorrhage and shock
    3. Surgical management of fractured bone

II. The Injured Hand
  A. Functional anatomy
    1. Volar surface of wrist
    2. Palm of hand
    3. Dorsum of hand and wrist

MODULE VI Trauma Management of Specific Organs

UNIT 4 Facial, Hand, and Eye Emergencies

INSTRUCTIONAL CONTENT (con't.)

- B. Examination of the injured hand
  - 1. Preliminary steps
    - a. Obtain history
    - b. Classify type of injury
      - 1) Tidy laceration
      - 2) Crushing injury
      - 3) Burn
      - 4) Traumatic amputation
    - c. Position injured hand with patient supine and with arm at right angles supported with a firm armboard
    - d. Infection control
- C. Vascular injuries
  - 1. Signs and symptoms
  - 2. Control of hemorrhage
  - 3. Indications for surgery
- D. Tendon and nerve injuries
  - 1. Signs and symptoms
  - 2. Management
- E. Nursing management
  - 1. General considerations
  - 2. Wound management
  - 3. Asepsis
  - 4. Follow-up care

MODULE VI Trauma Management of Specific Organs

UNIT 4 Facial, Hand, and Eye Emergencies

INSTRUCTIONAL CONTENT (con't.)

III. Review of the Anatomy of the Eye

IV. Assessment and Management of Eye Injuries

- A. Corneal abrasion
- B. Contusion
- C. Foreign bodies lodged in cornea
- D. Penetrating injuries to the eye
- E. Burns of the eye

RECOMMENDED STRATEGIES

... Lecture

... Presentation of case studies

... Use of transparencies and/or slides demonstrating examples of injuries

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Brunner, Suddarth, et.al. The Lippincott Manual of Nursing Practice. Philadelphia: J. B. Lippincott Co., 1974.

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Findeiss, Clifford, Editor. Emergency Critical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

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Platt, F., M.D. Case Studies in Emergency Medicine. Little, Brown & Co., 1974. p. 227.

MODULE VI Trauma Management on Specific Organs

UNIT 5 Musculo-Skeletal Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the pathophysiological concepts relative to the assessment and management of the patient with musculo-skeletal injuries.

II. Discuss the pathophysiology, symptomatology, and nursing care for a patient with fat embolism.

III. Demonstrate ability to apply principles of splinting and bandaging.

IV. Apply principles of appropriate transportation for the injured patient.

INSTRUCTIONAL CONTENT

I. General Considerations in the Initial Management of Vascular and Extremity Injuries
    A. Assess adequacy and presence of peripheral pulses
    B. Evaluate injury to nerve and tendon
    C. Observe aseptic precautions

II. Fractures
    A. Fractures of long bones
    B. Fractures or dislocations associated with vascular injury or nerve compression
    C. Compound fractures
    D. Simple uncomplicated fractures

MODULE VI Trauma Management on Specific Organs

UNIT 5 Musculo-Skeletal Emergencies

INSTRUCTIONAL CONTENT (con't.)

III. Types of Vascular Injuries and Initial Management for Each
  A. Laceration
  B. Transection
  C. Perforation
  D. Contusion
IV. Fat Embolism
  A. Clinical manifestations
  B. Management
V. Demonstrating of Splinting and Bandaging Procedures
VI. Transportation of the Injured Patient
  A. General considerations
  B. Specific considerations for:
    1. Head and spinal injuries
    2. The comatose patient
    3. Fracture of the jaw, elbow, hip, and pelvis
  C. Recommendations for vehicle to be used for transport
  D. Securing consent from relatives

RECOMMENDED STRATEGIES

... Lecture

... Hand-out material

... Demonstration of procedure for assessment of patient with possible fracture

MODULE VI Trauma Management on Specific Organs

UNIT 5 Musculo-Skeletal Emergencies

RESOURCE BIBLIOGRAPHY

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

Cole and Puestow. Emergency Care - Surgical and Medical, 7th ed. New York: Meredith Corporation, 1972. p. 438.

Condon, Robert, M.D., Editor. Manual of Surgical Therapeutics. Boston: Little, Brown & Co., 1969.

Findeiss, Clifford, Editor. Emergency Critical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

Stein, Alice, R.N., M.A. "Multiple Fractures - How to Prevent Pulmonary Complications," Nursing '74. Vol. 4, No. 11. (November 1974) pp. 26-34.

MODULE VI Trauma Management on Specific Organs

UNIT 6 Cardiac Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

- I. Discuss the pathophysiology and management of a patient with acute myocardial infarction and congestive heart failure.
- II. Apply clinical skills relative to the care of patients with acute myocardial infarction and congestive heart failure.
- III. Show proficiency in the use of rotating tourniquets.

INSTRUCTIONAL CONTENT

- I. Acute Myocardial Infarction
  - A. Pathophysiology
  - B. Clinical Manifestations
  - C. Management
- II. Acute Congestive Heart Failure
  - A. Pathophysiology
  - B. Signs and symptoms
  - C. Pulmonary edema
  - D. Use of rotating tourniquets

MODULE VI Trauma Management on Specific Organs

UNIT 6 Cardiac Emergencies

RECOMMENDED STRATEGIES

- ... Lecture
- ... Use of transparency materials
- ... Demonstration of proper use of automatic rotating tourniquets
- ... Hand-out materials

RESOURCE BIBLIOGRAPHY

Findeiss, Clifford, M.D. Emergency Medical Care. New York: The Intercontinental Medical Book Corp., 1974. p. 333.

Hudak, C., R.N., Gallo, Lohr. Critical Care Nursing. Philadelphia: J. B. Lippincott Co., 1973.

Meltzer, Abdullah, Kitchell. Concepts and Practices of Intensive Care for Nurse Specialists. Philadelphia: The Charles Press Co., Inc., 1970.

"M. I. - The First Three Minutes," Emergency Medicine. Vol. 6, No. 4. (April 1974) pp. 46-49.

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MODULE VII

ACUTE EMERGENCY NURSING CARE

MODULE VII Acute Emergency Nursing Care

UNIT 1 Poisoning

INSTRUCTIONAL OBJECTIVES

The Nurse will:

- I. Discuss the pathophysiological concepts relative to the assessment and physical examination of the poisoning action.
- II. Discuss the modalities of therapy for specific types of poisoning.
- III. Initiate nursing measures for life-saving purposes and make appropriate referral.

INSTRUCTIONAL CONTENT

- I. Assessment and Physical Examination of Patient
  - A. Initial presentation of patient
    - 1. Patient evaluation (five classifications regarding:)
      - a. Airway
      - b. Breathing
      - c. Circulation
  - B. Making a diagnosis
    - 1. Entertain the possibility of poisoning
      - a. Probable poisons for children
      - b. Probable poisons for adults
      - c. Patient with double diagnosis
      - d. Importance of patient history

MODULE VII Acute Emergency Nursing Care

UNIT 1 Poisoning

INSTRUCTIONAL CONTENT (con't.)

II. Medical and Nursing Intervention
  A. Prevent further absorption
    1. Agents which absorb poisons
    2. Emptying the stomach
      a. Gastric lavage
      b. Emetics
    3. Cathartics
  B. Give symptomatic and supportive therapy
    1. Cardiac failure
    2. Convulsions
    3. Edema (brain, heart, kidneys)
    4. Liver poisons
    5. Kidney poisons
    6. Respiratory failure
  C. Apply specific antidotal therapy, if appropriate
  D. Hasten excretion of absorbed drug
  E. Anticipate complications
  F. Preserve physical evidence of poison
  G. Prevent recurrence

III. Types
  A. Household products
  B. Aspirin
  C. Plants

MODULE VII Acute Emergency Nursing Care

UNIT 1 Poisoning

INSTRUCTIONAL CONTENT (con't.)

D. Chemical and gas

E. Snakebites

1. First-aid treatment
2. Pathophysiology of venom - systemic effects
3. Emergency treatment

RECOMMENDED STRATEGIES

... Lecture

... Introduction to Poison Control Index--available at the Central Florida Poison Control Center located at Orange Memorial Hospital Emergency Department.

RESOURCE BIBLIOGRAPHY

Aaron, James, Frank Bridges, et.al. First Aid and Emergency Care. New York: The McMillan Co., 1972. p. 411.

Brunner, Suddarth, et.al. The Lippincott Manual of Nursing Practice. Philadelphia: J. B. Lippincott Co., 1974.

Eckert, Charles, M.D., Editor. Emergency Room Care. Boston: Little, Brown & Co., 1971. p. 423.

Sharpe, John, M.D., and F. Marx, M.D. Management of Medical Emergencies. New York: The McGraw Hill Book Co., 1969. p. 739.

MODULE VII Acute Emergency Nursing Care

UNIT 2 Acute Drug Overdose

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Identify the concepts of assessment of the patient of acute drug overdose.

II. Identify the principles of management of the patient of acute drug overdose.

INSTRUCTIONAL CONTENT

I. Principle Manifestations and Emergency Treatment
   A. Narcotic and barbiturate overdose
   B. Amphetamine overdose
   C. LSD
   D. Multiple drug abuse

II. Presenting Signs of the Drug Abuse/Overdose Patient
   A. Coma
   B. Semi-coma or stupor
   C. Halucinations, psychosis, and agitation
   D. Euphoria
   E. Anxiety

III. Initial Management
   A. "Talking the patient down"
   B. Gastric lavage
   C. Identification of ingested drug or drugs
   D. Drug intervention

MODULE VII Acute Emergency Nursing Care

UNIT 2 Acute Drug Overdose

INSTRUCTIONAL CONTENT

IV. Definitive Care - Follow-up Psychiatric Counseling

V. Complications of Drug Abuse

- A. Infections
  - 1. Subacute bacterial endocarditis
  - 2. Pneumonitis
  - 3. Hepatitis
- B. Pulmonary Embolism

RECOMMENDED STRATEGIES

... Lecture with discussion

... Movie: "The Treatment of Acute Drug Overdose"

... Hand-out: "The Treatment of Acute Drug Overdose"

RESOURCE BIBLIOGRAPHY

Eckert, Charles, M.D., Editor. Emergency Room Care, 2nd ed. Little, Brown & Co., 1971. p. 423.

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Sharpe, John, M.D., and F. Marx, M.D. Management of Medical Emergencies. New York: The McGraw Hill Book Corp., 1969. p. 739.

The Treatment of Acute Drug Overdose. Eli Lilly Co.

MODULE VII Acute Emergency Nursing Care

UNIT 3 Burns

INSTRUCTIONAL OBJECTIVE

The Nurse will:

I. Define the various types of burns and state the first-aid management for each type.

II. Determine the extent of surface burns by applying the "rule of nine's" formula, and classify burns according to depth of injury.

III.. Apply stated "guide-lines" in the initial management of the severely burned patient in the emergency department.

IV. Discuss the pathological effects of electric shock.

V. Initiate or assist in the treatment of victims of electrocution.

INSTRUCTIONAL CONTENT

I. Thermal Injury
  A. Burns
  B. Chemical burns
  C. Heatstroke
  D. Heat exhaustion
  E. Cold injury

MODULE VII Acute Emergency Nursing Care

UNIT 3 Burns

INSTRUCTIONAL CONTENT (con't.)

II. Classification and Description of Burns
    A. 1st degree burn
    B. 2nd degree burn
    C. 3rd degree burn
    D. Estimating percentage of body surface burns by "rule of nine's"
III. Emergency Treatment of the Burn Victim
    A. Airway patency
    B. Data collection
    C. Formula for fluid replacement for first 24 hours
    D. Monitoring urine output
    E. Control of pain
    F. Control of emesis
    G. Reverse isolation precautions
IV. Effects of Electric Shock on the System
    A. Factors influencing severity of electric shock
        1. Voltage and amperage
        2. Amount of moisture on victim (H_2O)
        3. Amount of insulation on victim
    B. Symptoms of shock
        1. Moderate shock
        2. Severe shock
    C. Treatment

MODULE VII Acute Emergency Nursing Care

UNIT 3 Burns

RECOMMENDED STRATEGIES

... Lecture with discussion

... Use of transparency materials as audio-visual aids

RESOURCE BIBLIOGRAPHY

Aaron, James, Bridges, Ritzel. First Aid and Emergency Care. New York: The McMillan Co., 1972. p. 411.

"Be Aggressive With Burns," Emergency Medicine. Vol. 6, No. 4. (April 1974) pp. 216-230.

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MODULE VII Acute Emergency Nursing Care

UNIT 4 Water Accidents (Near Drowning)

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Recognize the magnitude of the problem, particularly in the Florida area.

II. Apply physiological concepts relative to the management of a near-drowning patient in the emergency department.

INSTRUCTIONAL CONTENT

I. Magnitude of the Problem - Statistics

II. Types of Drowning or Near Drowning

III. Emergency Treatment
  - A. At the scene
  - B. In the Emergency Room
    1. Treat acid-base problems
    2. Assist ventilation
    3. Monitor for 36 hours

RECOMMENDED STRATEGY

... Lecture

RESOURCE BIBLIOGRAPHY

Aaron, James, F. Bridges, et.al. First Aid and Emergency Care. New York: The McMillan Co., 1972. p. 411.

MODULE VII Acute Emergency Nursing Care

UNIT 4 Water Accident (Near Drowning)

RESOURCE BIBLIOGRAPHY (con't.)

American College of Surgeons, Committee on Trauma. Early Care of the Injured Patient. Philadelphia: W. B. Saunders Co., 1972. p. 441.

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Sharpe, John, M.D. and F. Marx, M.D. Management of Medical Emergencies. New York: The McGraw Hill Book Corp., 1969. p. 739.

MODULE VII Acute Emergency Nursing Care

UNIT 5 Pediatric Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Define the pathophysiological concepts relative to the assessment and therapy of pediatric emergencies.

II. Show proficiency in performing pediatric cardiopulmonary resuscitation.

III. Discuss the R.N.'s role in the management of the battered child in the emergency department.

INSTRUCTIONAL CONTENT

I. Respiratory Distress
    A. Types, manifestations, and initial management
        1. Croup
        2. Acute laryngotracheobronchitis
        3. Acute epiglottis
    B. Acute asthma
    C. Status asthmaticus
II. Non-respiratory Emergencies
    A. Acute convulsions
    B. Febrile conditions
    C. Diabetic ketoacidosis

MODULE VII Acute Emergency Nursing Care

UNIT 5 Pediatric Emergencies

INSTRUCTIONAL CONTENT (con't.)

III. Suspected Child Abuse
   A. Identifications
   B. The nursing role in the management of suspected child abuse
      1. Consider the diagnosis
      2. Remain non-judgmental
      3. Safeguard the child
      4. Investigate medico-social aspects
      5. Watts line to call

RECOMMENDED STRATEGIES

... Lecture

... Discussion

... Photographs of battered children from the Orlando Police Department files

RESOURCE BIBLIOGRAPHY

Condon, Robert, Editor. Manual of Surgical Therapeutics, 2nd ed. Boston: Little, Brown & Co., 1969. p. 385.

Eckert, Charles, M.D., Editor. Emergency Room Care, 2nd ed. Boston: Little, Brown & Co., 1971. p. 423.

MODULE VII Acute Emergency Nursing Care

UNIT 5 Pediatric Emergencies

RESOURCE BIBLIOGRAPHY (con't.)

Findeiss, Clifford, Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974. p. 333.

"Junior Neuro-Emergencies," Emergency Medicine. Vol. 7, No. 1. pp. 206-207.

Sharpe, John, M.D. and F. Marx, M.D. Management of Medical Emergencies. New York: The McGraw Hill Book Corp., 1969. p. 737.

Suspected Child Abuse. Peoria: Trauma Nursing Course of Cook County.

MODULE VII Acute Emergency Nursing Care

UNIT 6 Obstetrical and Gynecological Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the pathophysiological concepts relative to the management and therapy of obstetrical and gynecological emergencies.

II. List pertinent observations needed to assess the condition of both mother and fetus.

III. Initiate nursing intervention and assist the doctor in the management of obstetrical and gynecological emergencies.

INSTRUCTIONAL CONTENT

I. Vaginal Hemorrhage
  A. Common causes
    1. Pregnancy complications
      a. Abortion
      b. Ectopic pregnancy
      c. Hydatidiform mole
    2. Antepartum complications
      a. Abruptio placenta
      b. Placenta praevia
    3. Post-partum complications
      a. Bleeding
      b. D.I.C.

MODULE VII Acute Emergency Nursing Care

UNIT 6 Obstetrical and Gynecological Emergencies

INSTRUCTIONAL CONTENT (con't.)

- B. Assessment
    - 1. Pelvic examination
    - 2. Laboratory tests
- C. Initial management
    - 1. Obtain history
    - 2. Obtain blood for TXC
    - 3. Prevent shock
    - 4. Arrange for admission to the Delivery Room or to Surgery, as indicated

II. Acute abdomen

- A. Types
    - 1. Ruptured ovarian cyst
    - 2. Acute salpingitis
- B. Assessment and initial management

III. Pelvic pain

- A. Dysmenorrhea
- B. Management

RECOMMENDED STRATEGIES

... Lecture

... Discussion

MODULE VII Acute Emergency Nursing Care

UNIT 6 Obstetrical and Gynecological Emergencies

RESOURCE BIBLIOGRAPHY

Eckert, Charles, M.D., Editor. Emergency Room Care, 2nd ed. Boston: Little, Brown & Co., 1971. p. 423.

Fitzpatrick, Elise, et.al. Maternity Nursing, 11th ed. Philadelphia: J. B. Lippincott Co., 1966.

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MODULE VII Acute Emergency Nursing Care

UNIT 7 Psychiatric Emergencies

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Discuss the approaches for the initial care of a violent patient.

II. Obtain a picture of the outcome for patients in psychiatric crisis: violent death and criminal violence perpetrated against others.

III. Become familiar with community resources and catchment areas in Central Florida.

IV. Discuss the pathophysiological concepts relative to the evaluation and management of the patient with acute psychiatric problems, including attempted suicide.

INSTRUCTIONAL CONTENT

I. Types of Psychiatric Emergencies
  A. Acute schizophrenia confusion
  B. Acute schizophrenia
  C. Paranoia or delusion
  D. Severe depression
  E. Acute anxiety or panic reaction
  F. Suicidal ideas or gestures

MODULE VII Acute Emergency Nursing Care

UNIT 7 Psychiatric Emergencies

INSTRUCTIONAL CONTENT (con't.)

- G. Toxic brain syndrome induced by alcohol or drugs (discussed separately)
- H. Extreme rage or aggression
- I. Chronic brain syndromes with explosive outbursts of rage

II. Behavioral Manifestations

III. Initial Management

IV. Definitive Care

- A. Method of adequate disposition of psychiatric cases
- B. Community resources

RECOMMENDED STRATEGIES

... Lecture

... Case study reports

... Lecture with discussion

RESOURCE BIBLIOGRAPHY

Eckert, Charles, M.D. Emergency Room Care, 2nd ed. Boston: Little, Brown & Co., 1971.

Findeiss, Clifford, M.D., Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974.

RESOURCE BIBLIOGRAPHY (con't.)

Stengel, E. and No. Cook. Attempted Suicide. London: Chapman and Hall, 1958.

Twilla, Westereamp, M.D. "Suicide," A.J.N. Vol. 75, No. 2. (February 1975) pp. 260-262.

MODULE VIII

LEGAL ASPECTS OF TRAUMA CARE

MODULE VIII Legal Aspects of Trauma Care

UNIT 1 Legal Implications

INSTRUCTIONAL OBJECTIVES

The Nurse will:

I. Obtain information regarding funding and legislation pertinent to Emergency Medical Services.

II. Discuss the legal aspects of trauma care.

INSTRUCTIONAL CONTENT

I. Legislation in Emergency Medical Services
  A. Funding
  B. Legislation
II. The Law as it Affects the Delivery of Emergency Room Care
  A. General medico-legal considerations
  B. Specific considerations in handling patients of:
    1. Acute drug (narcotic) overdose
    2. Rape
    3. Suicide
    4. D.O.A.
    5. Alcoholic intoxication
III. Legal Responsibilities of the R.N. in a Trauma Unit
  A. Record keeping
  B. Initiation and termination of resuscitation efforts
  C. Communication
  D. Drug administration

MODULE VIII Legal Aspects of Trauma Care

UNIT 1 Legal Implications

RECOMMENDED STRATEGY

... Lecture by lawyer

RESOURCE BIBLIOGRAPHY

Eckert, Charles, M.D., Editor. Emergency Room Care, 2nd ed. Boston: Little, Brown & Co., 1971.

Findeiss, Clifford, M.D., Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974.

MODULE VIII Legal Aspects of Trauma Care

UNIT 2 Record Keeping

INSTRUCTIONAL OBJECTIVE

The Nurse will:

State the minimum requirements set by the Bar Association's section on Insurance, Negligence, and Compensation pertinent to record keeping.

INSTRUCTIONAL CONTENT

I. Essential Contents of Emergency Department Records
   A. Patient identification
   B. History of disease or injury
   C. Physical finding
   D. Lab and X-ray reports, if any
   E. Diagnosis
   F. Disposition of case
   G. Record of treatment
   H. Signature of physician

II. Disposition of Record

RECOMMENDED STRATEGY

... Lecture by State Consultant on Medical Records

MODULE VIII Legal Aspects of Trauma Care

UNIT 2 Record Keeping

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Findeiss, Clifford, M.D., Editor. Emergency Medical Care. New York: The Intercontinental Book Corp., 1974.

Sharpe, John, M.D. and F. Marx, M.D. Management of Medical Emergencies. New York: The McGraw-Hill Book Corp., 1969.

PART III

APPENDIX A

CLASS SCHEDULE

Trauma Nursing Course Schedule
First Week

SESSION 1 - Monday a.m.

Introduction
Pre-test

The Trauma System Concept

The Trauma Problem
Instructor
Role of Professionals and Paramedics
Instructor
Paramedic
The Process of Triage
Instructor

SESSION 2 - Monday p.m.

Shock

Recognition of Shock
Physician
Physiological Mechanisms of Shock
Instructor

SESSION 3 - Tuesday a.m.

Management of Shock

Hemostasis
Instructor
Volume Replacement
Instructor
Biochemical Monitoring
Instructor
Pharmacological Intervention
Instructor

SESSION 4 - Tuesday p.m.

Hyperalimentation
Instructor
Fluids and Electrolytes
Registered Nurse
Blood Gases
Instructor

SESSION 5 - Wednesday a.m.

Cardiopulmonary Resuscitation

Structure and Function of the Cardiovascular and Respiratory System
Instructor
Cardiac and Respiratory Arrest
Instructor
Cardiopulmonary Resuscitation
Instructor

SESSION 6 - Wednesday p.m.

Cardiopulmonary Resuscitation Practice
I.V. and Drug Therapy Used in Cardiopulmonary Resuscitation Practice
Instructor
Lethal Arrhythmias
Registered Nurse

SESSION 7 - Thursday a.m.

Lethal Arrhythmias
Registered Nurse
Pre-Cardial Shock
Instructor
Cardiopulmonary Resuscitation Practice and Defibrillation
Instructor

SESSION 8 - Thursday p.m.

Practice Session on Cardiopulmonary Resuscitation and Defibrillation
Respiratory Therapist
Instructor

Assessment and Therapy of the Critically Ill

General Clinical Evaluation
Instructor
Initial Management
Instructor
Crisis Intervention
Registered Nurse

SESSION 9 - Friday a.m.

Management of Trauma on Specific Organs

Review of the Nervous System Head and Spinal Injuries
Instructor

SESSION 10 - Friday p.m.

Equipment Review
Instructor
Clinical Experience

Trauma Nursing Course Schedule
Second Week

SESSION 11 - Monday a.m.

Chest Trauma	Instructor
Pulmonary Complications in Shock	Instructor
Abdominal Injuries	Instructor

SESSION 12 - Monday p.m.

Genito-Urinary Injuries	Instructor
Facial, Hand, Eye Ear Injuries	Registered Nurse Instructor
Auscultation	Physician

SESSION 13 - Tuesday a.m.

Musculo-Skeletal Injuries	Physician
Radiology	Physician
Cardiac Emergencies	Registered Nurse

SESSION 14 - Tuesday p.m.

Neurological Emergencies	Instructor
Respiratory Emergencies	Instructor

SESSION 15 - Wednesday a.m.

Acute Emergencies-Nursing Care

Poisoning	Registered Nurse
Burns	Instructor
Electrocution-Near Drowning-Anaphylaxis	Physician
Suspected Child Abuse	Social Service Worker

SESSION 16 - Wednesday p.m.

Pediatric Emergencies	Instructor
Obstetrical and Gynecological Emergencies	Instructor
Management of Acute Drug Overdose	Instructor

SESSION 17 - Thursday a.m.

Psychiatric Emergencies	Psychiatric Social Worker

Legal Implications of Trauma Care

Records and Reports	Instructor
Legal Implications	Lawyer
Final Examination	

SESSION 18 - Thursday p.m.

Clinical Experience

SESSION 19 - Friday a.m.

Discussion of Final Examination	Instructor
Clinical Experience	

SESSION 20 - Friday p.m.

Clinical Experience

Post Assessment

Presentation of Certificates

APPENDIX B

PRE/POST TEST

Pre-test

TRAUMA NURSING

Name ______________________ Title or Position ______________

Field of Practice _____ICU _____ER _____CCU ____Industrial

Agency of Employment ______________________________

Education: Diploma Program_____ A.D._____ B.S.____ M.A.___

Previous Work Experience: ___________________________

Choose the best answer. Only one answer is indicated unless specified.

1. Cardiac Tamponade is manifested by:

   A. low CVP, low BP
   B. high CVP, low BP, fast pulse
   C. low U. O.
   D. dyspnea

      1. B,C,D
      2. A,C,D
      3. B,C
      4. A,D

2. Explain why a patient with severe hypercapnea (increased CO_2 level) should not receive high levels of oxygen.

   A. A high level of O_2 may lead to rupture of the aveoli.
   B. His only stimulus to breathe may be a low PO_2 content.
   C. A high level of oxygen will cause respiratory acidosis.

3. A wide mediastinum on X-ray is indicative of what thoracic injuty?

   A. cardiac contusion
   B. tension pneumothorax
   C. rupture of aorta

4. CVP readings can be inaccurate as a result of:

   A. airway obstruction
   B. use of respirator
   C. catheter obstruction
   D. changes in body position

      1. A & D
      2. B & C
      3. all of the above

5. Respiratory acidosis is characterized by:

   A. low ph & high PCO_2
   B. low ph & low PCO_2
   C. high ph & low PCO_2
   D. none of the above

6. Mr. M. is admitted to the Emergency Room with severe dyspnea. The nurse noted that only his right chest moved on respirations and that there were no breath sounds on the left chest. Her initial action should be:

   A. prepare a thoracentesis tray
   B. call the physician as the patient possibly developed a pneumothorax
   C. insert a large bore needle into the 4th intercostal space
   D. ask the patient if he always breathes this way

7. CVP reflects:

   A. venous pressure in the vena cavae and right atrium
   B. pressure in the pulmonary vein
   C. pressure in the left atrium
   D. pressure in the peripheral vein

8. The most significant observation done for a patient with head injury is:

   A. pupillary reactions
   B. temperature
   C. spinal fluid leak from nose or ears
   D. level of conciousness

9. Vital signs on a patient with a head injury with increased intracranial pressure would show:

   A. high BP, fast pulse
   B. low BP, fast pulse
   C. high BP, low pulse

10. The drug of choice for the management of hemodynamic shock is:

   A. Isuprel
   B. Epinephrine
   C. Intropin
   D. Aramine

11. An increase in hemoglobin and hematocrit on a severely burned patient is indicative of:

A. dehydration
B. overloading of the circulatory system
C. infection
D. electrolyte imbalance

12. Fresh Frozen Plasma is used:

A. when concentrates are not available
B. prior to an organ transplant
C. in place of platelet-rich plasma
D. for patients with a clotting factor deficiency or when deficiency is undiagnosed

13. The blood product used in the treatment of hemophilia is:

A. fibrinogen
B. albumin
C. cryoprecipitate or factor 8

14. A patient who sustains burns involving the whole circumference of the chest and the back, including both arms has a:

A. 36% surface area burn
B. 28% surface area burn
C. 18% surface area burn
D. 54% surface area burn

15. The primary function of the respiratory system is:

A. to provide O_2 to the tissues
B. eliminate CO_2 from the lungs
C. exchange O_2 & CO_2 at the alveolar level
D. A & B

16. Rotating tourniquets, diuretics and digitalis are used in treating:

A. liver failure
B. pulmonary edema
C. cardiac tamponade
D. mitral insufficiency

17. Conditions that cause metabolic acidosis are:

A. diabetes
B. hypoventilation
C. shock
D. renal-failure
E. excessive vomiting

1. all of the above
2. A,C
3. A,B,E
4. A,C,D

18. Before defibrillating a patient, the operator must take the following precautions:

A. synchronize the machine so that the shock is delivered in time with the "R" wave
B. set the "discharge" button at 400
C. set the "discharge" button at 20
D. instruct everybody to "stand back"
E. lubricate the paddles

1. A,B,D,E
2. C,D,E
3. B,D,E
4. A,B,D

19. The usual adult dose for IV infused Mannitol is 50-200 gm in 24 hours. Mannitol is supplied in 50 cc ampules containing 12.5 grams Mannitol.

Doctor"s Order reads: Add 2 amps. Mannitol in 500 cc of D5W and infuse 4 gms Mannitol per hour. Using a micro-drip, the nurse should infuse this amount per minute:

A. 100 gtts.
B. 80 gtts.
C. 50 gtts.
D. 150 gtts.

20. Lidocaine (Xylocaine) administered intravenously for ventricular tachycardia would have the following adverse effects if given in overdose:

A. tachycardia, hypertension
B. twitching, tremors, convulsion
C. bradycardia which may lead to cardiac arrest
D. B & C
E. A & B

21. The normal blood ph is:

A. 6.8 - 7.0
B. 4.6 - 7
C. 7.35 - 7.45
D. 7.30 - 7.35

22. Hyperventilation if uncorrected will lead to respiratory alkalosis because:

    A. CO_2 is retained
    B. CO_2 is lost
    C. HCO_3 is elevated
    D. PO_2 is increased

23. The pulmonary arteries receive blood from:

    A. left atrium
    B. left ventricle
    C. right atrium
    D. right ventricle

24. Which of the following types of head injuries warrant prophylactic use of antibiotics?

    A. contusion
    B. linear fracture
    C. gun-shot wound
    D. sub-dural hematoma

25. Each normal heartbeat:

    A. is the result of an electrical impulse originating from the right atrium
    B. begins in the SA node
    C. passes from the SA node to the bundle of HIS
    D. ends as the impulse reaches the bundle branches

        1. all of the above
        2. A,B
        3. B,C,D
        4. A,C

26. In closed chest massage:

    A. cardiac compression should be 60-80 per minute
    B. the heel of the palm is placed on the lower third of the zyphoid process
    C. two operators should administer one ventilation to every 10 cardiac compressions
    D. cardia compression should depress the chest 1 - 1½ inches or 80 lbs. of pressure

        1. A & D
        2. A,B,D
        3. all of the above
        4. A,C,D

27. The principal cause of death in facial injuries is:

    A. hemorrhage
    B. infection
    C. increased intracranial pressure
    D. upper airway obstruction

28. The five (5) "P's" used as diagnostic signs of peripheral injuries are: (circle 5 letters)

    A. absence of pulse
    B. paradoxical pulses
    C. pain
    D. palpitation
    E. pallor
    F. paresthesias
    G. paralysis
    H. perspiration

29. Indications that pancreatic injury may exist are:

    A. leukocyte count over 20,000
    B. elevated amylase
    C. elevated SGOT
    D. tenderness of the right lower quadrant of the abdomen

        1. A,B,C
        2. A,B
        3. A,B,D
        4. all of the above

30. The main direct source of arterial blood to the brain is by:

    A. carotid artery
    B. jugular vein
    C. subclavian artery
    D. the aorta

31. Cardiac output is:

    A. the amount of blood ejected by the heart per contraction
    B. is also known as stroke volume
    C. is about 60-70 cc normally
    D. is about 5 liters per minute normally

32. Which tissue is most sensitive to lack of Oxygen?

    A. myocardium
    B. lung tissue
    C. cerebral cortex
    D. kidney tissue

33. Why is an elevated temperature particularly dangerous to the patient with a head injury?

    A. It raises intracranial pressure.
    B. It alters blood ph.
    C. It increases need for Oxygen.
    D. It releases toxins.

34. Blood pressure is not affected in shock until total blood volume is decreased more than:

    A. 5%
    B. 15 - 30%
    C. 10%
    D. 40 - 50%

35. In peripheral vascular injuries:

    A. the partially severed vessel will bleed more than the completely transected vessel

    B. pulses may be presented initially and then disappear later
    C. evaluation of the pulses distal to the injury is mandatory
    D. absence of pulses indicates the limb will be lost

        1. A,B
        2. A,B,C
        3. A,B,D
        4. D

Match the appropriate letter that is defined in the left-hand column.

A. Hyperkalemia
B. Hypocalcemia
C. Hypercapnea
D. Tachypnea
E. Alkalosis
F. Asystole
G. Hyponatremia'
H. A D H
I. Ventricular fibrillation
J. Hypovolemia
K. Curling's ulcer
L. Embolism
M. Paralytic ileus

___ increased amount of CO_2 in the blood
___ stress ulcer secondary to severe trauma or burn
___ increased bicarbonate
___ increased potassium
___ uncontrolled heart beat
___ decreased calcium
___ released blood clot
___ low blood and/or fluid volume
___ produced by the pituitary gland
___ heart standstill

True or False

___ 1. Shock can lead to renal failure.
___ 2. Xylocaine IV infusion is indicated in all types of cardiac fibrillation.
___ 3. A low ph is more toxic to the body than a high ph.
___ 4. Electrical impulse to the cardiac muscle begins in the S-A node.
___ 5. A patient is said to be in acute hemorrhage if 500 cc's has been lost.
___ 6. Gastric injuries should be suspected if blood is aspirated from the levine tube.
___ 7. The spleen is the most commonly injured intra-abdominal organ in blunt trauma.
___ 8. Absence of breath sounds may be indicative of air or fluid in the pleural space.
___ 9. When human anti-toxin is not available, prophylaxis against tetanus can be accomplished by means of broad spectrum antibiotics given in therapeutic doses.
___10. Injury to the first or second rib indicates minor trauma.
___11. Changes in the level of conciousness is the best determinant of the existence and severity of head injury.
___12. Flail chest is a fracture of two or more ribs in more than one place.
___13. Distended neck veins is one sign that could distinquish cardiac tamponade from shock.
___14. Acute M.I. is usually evidenced by changes on the S-T and T waves on an EKG.
___15. In left sided heart failure, blood backs up in the pulmonary veins.

APPENDIX C

WORKSHEETS

TRAUMA NURSING

I. Acidosis

1. Acidosis = ______________________ acid or _________ base.
2. The end products of respiration are excreted by ______________________.
3. The end products of metabolism are exreted by the ______________________.

   The lungs excrete acid in the form of _____________.
4. Acid may accumulate when there is abnormal _________ or abnormal ________________.
5. If a person breathes slowly or ineffectively, he will save/lose CO_2 .
6. So people who retain CO_2 will have ___________ acid. The state is known as ___________________.
7. A substance that balances an acid is a _____________. The body's most important base is __________________.
8. Therefore, to correct ↑ acid, the kidneys save _______________________.

II. Alkalosis

1. Alkalosis = ______________________ base or ___________ acid.
2. The kidneys can/cannot regulate base or bicarbonate.
3. When the kidneys save excess base or bicarbonate, _____________________ results.
4. The lungs can/cannot regulate base or HCO_3.
5. The lungs can/cannot regulate acid or CO_2.

III Metabolic Acidosis

1. Metabolic acidosis is caused by increased ____________.

   The acid comes from abnormal metabolism.

   Examples of diseases that cause metabolic acidosis.

    1.
    2.
    3.

2. The clinical signs of metabolic acidosis are:

    1.
    2.

3. The lungs can help the kidneys to excrete excess acid by losing it in the form of ____________________.

4. In metabolic acidosis you would expect to see:

    1. ____________ph
    2. ____________HCO_3

   The bicarbonate is ___↑___/___↓___ because the kidneys and lungs cannot keep up with the excess accumulation of acids.

IV. Metabolic Alkalosis

1. Metabolic alkalosis is caused by ↑ ________________.

2. Conditions that cause a loss of cl^- from the body:

    1.
    2.
    3.

   When cl^- is lost, HCO_3^- is saved to maintain body's balance.

3. Too much HCO_3^-, however, can cause ________________.

4. In excessive diuresis, k+ and cl^- are lost, HCO_3 is saved, ___________________results.

5. In excessive vomiting or GI suctioning, Hcl will be lost, HCO_3 saved, and __________________ will result.

6. Clinical signs of alkalosis are:

   1.
   2.

7. In metabolic alkalosis you would expect to see:

   __________________ ph

   __________________ HCO_3

V.

1. Respiratory acidosis = ____________________ CO_2

   ____________________ HCO_3

2. Examples of conditions causing ineffective respirations are:

   1.
   2.
   3.

3. Clinical signs of respiratory acidosis are:

   1.
   2.

4. Respiratory alkalosis would show ↓ / ↑ PCO_2.

5. Causes of respiratory alkalosis are:

   1.
   2.
   3.

6. In respiratory alkalosis the PH would be ↑ / ↓.

When analyzing blood gases, follow these steps.

Step 1 - Check the values: Note which are normal and which abnormal.

Step 2 - Check the ph: is the value above or below normal.

Note: ph ↓ = acidosis

ph ↑ = alkalosis

Step 3 - Check the values that reflect the metabolic part of the equation:

*HCO_3 and BE: Are they normal or ↑ or ↓ ?

Step 4 - Check the values that reflect the respiratory part of the equation:

*PCO_2 and PO_2: Are they normal?

Note: PCO_2 is important in evaluating acidosis or alkalosis.

PO_2 is important in evaluating hypoxia.

Step 5 - Make a diagnosis.

e.g. "respiratory acidosis"

Step 6 - Determine any compensatory mechanisms, e.g., metabolic compensation for respiratory acidosis.

Step 7 - Evaluate why patient presents with abnormal values.

Step 8 - Action to be taken?

e.g. (1) Correct underlying cause of imbalance.

(2) Pharmacologic intervention.

Interpret the following blood gas values.

Normal

ph 7.35 - 7.45
PCO_2 35-45
HCO_3 22-26
BE 0-2
PO_2 90-110
50-100

I. PH-7-15
PCO_2 -60
PO_2 -45
BE (-) 15

II PH - 7 - 28
PCO_2 - 30
PO_2 - 80
HCO_3 - 27.3

III. PH 7.35
HCO_3 29
PCO_2 60
BE + 9
PO_2 50

TRAUMA NURSING

TEST YOURSELF ON ADMINISTRATION AND PREPARATION OF I.V. MEDICATIONS

By

Stella Jensen, R.N., B.S.

1. State the action of the following drugs:

   Nipride ______________________________

   Epinephrine ______________________________

   Osmitral ______________________________

   Intropin ______________________________

   Xylocaine ______________________________

   Aramine ______________________________

   Levophed ______________________________

2. State an indication for each of above listed drugs:

3. Give one common adverse reaction to each of the following:

   1. Epinephrine ______________________________
   2. Xylocaine ______________________________
   3. Levophed ______________________________

TRUE OR FALSE

__________ 1. Adrenaline is used to restore cardiac rhythm even in patients with ventricular fibrillation.

__________ 2. It is safe to administer .2 - 1 cc of adrenaline sub-cu to an adult.

__________ 3. The sympathetic nervous system constricts the peripheral and coronary arteries.

__________ 4. An osmotic diuretic like mannitol works by blocking tubular reabsorption in the kidneys.

__________ 5. In patients receiving I.V. infused mannitol, oliguria may be expected to persist and poses no harm to the patient.

__________ 6. Hypertonic solutions of mannitol should not be infused simultaneously with whole blood as agglutination may result.

__________ 7. If crystals are noted in an amp. containing mannitol, it should be discarded.

__________ 8. A filter should be used when infusing mannitol 20%.

__________ 9. Xylocaine infusion is effective for management of atrial fibrillation.

__________ 10. In the event of severe adverse reaction affecting the C.N.S., short acting barbiturates and muscle relaxants could counteract the effects of Xylocaine.

__________ 11. 25 - 50 mg. per min. (1.2 - 2.5 cc/min.) is a safe dosage for Xylocaine given as direct I.V.

__________ 12. Aramine may be administered I.M., sub-cu, or I.V.

__________ 13. Cumulative effects are possible with prolonged use of I.V. infused aramine.

__________ 14. The antecubital vein is the preferred site for I.V. infused aramine.

__________ 15. When titrating the rate of aramine to increase the B.P., always allow 10 min. to elapse before increasing the dose.

__________ 16. Aramine may be incorporated with solutions other than NS and D_5W.

__________ 17. Levophed is better tolerated systemically than all other pressor agents.

__________ 18. Levophed is a very potent and powerful vasoconstrictor.

__________ 19. When initiating Levophed infusion, the nurse should check the B.P. every 2 min. until desired B.P. is obtained.

__________ 20. Headache may be a sign of hypertension due to Levophed overdosage.

__________ 21. Nipride's duration of action is very brief.

__________ 22. A prepared solution of nipride may be stored if covered with foil for 24 hours.

__________ 23. Nipride may be mixed with NS as an I.V. infusion.

__________ 24. Intropin can be mixed with any I.V. solution.

__________ 25. Diuretics potentiate the effects of intropin.

DOSAGE CALCULATION WORKSHEET:

1. The usual adult dose for I.V. infused mannitol is 50-100 g. in 24 hours.

   How Supplied: 50cc. ampuls containing 12.5 gms. mannitol.

   Dr.'s Order:

   Add 2 amps. mannitol in 500 cc. D_5W and infuse 4 gms./hr. Using a micro drip, the Registered Nurse should infuse __________ drops per min.

2. Intropin (Dopamine Hcl) is supplied in 5 cc. ampuls containing 200 mg.

   Suggested dilution:

   1. 5 cc. in 500 cc. of NS which will yield 400 mcg./cc.
   2. 5 cc. in 250 cc. of NS which will yield 800 mcg./cc.

   2-5 mcg./Kg/cc. is a safe initial dose for a patient.

   Dr.'s Order:

   > Add 1 amp. intropin in 500 cc. NS and administer 3mcg./Kg/min.
   >
   > In a patient weighing 180 lbs. ___________cc's. should be given per min.

3. Aramine is supplied in 10cc. vials containing 100 mg. (10 mg./cc.)

   Recommended dose is 15 to 100 mg. in 500 cc. of NS, adjusting the rate of infusion to maintain the blood pressure at the desired level.

   Dr.'s Order:

   > Add 1 amp. aramine to 500 cc. D_5W and titrate fluid rate to maintain B.P. between 100 - 120 systolic. Start infusion using 20 mg. aramine per hour. How many cc's. would contain 20 mg./hr.?

TRAUMA NURSING

BLOOD GAS DETERMINATIONS

Case History I

Mrs. A, a 60 year old female was admitted via ambulance with severe respiratory distress secondary to acute pulmonary edema. Blood gases were drawn and results showed:

PO_2	54
PCO_2	58
PH	7.29
HCO_3	27
BE	(-) 1

Interpretation:

Action Taken:

Three hours later her blood gas values read:

PH	7.35
PO_2	97
PCO_2	46
HCO_3	25

Interpretation:

The patient is then put on relatively large doses of diuretic. After several days K+ level is 3.7 and his blood gas values read:

PH	7.46
PO_2	97
PCO_2	46
BE	+7
HCO_3	32

Interpretation:

Action:

Case History 2

Mr. G. was admitted with a diagnosis of acute hemorrhage secondary to trauma to the left femur. His blood gas values read:

PH	7.36
PO_2	70
PCO_2	37
BE	-6
HCO_3^-	18

Interpretation:

Action:

Surgery was performed on the fractured femur. While in the recovery room, he was given 40% O_2 via nasal thongs. His blood gas values were:

PH	7.44
PO_2	138
PCO_2	48
BE	-4
HCO_3	28

Interpretation:

Action Taken:

Case History 3

Three year old Brian was admitted with severe nausea and vomiting. His blood gas values were:

PH	7.6
PO_2	65
PCO_2	60
HCO_3	36

Interpretation:

Action:

BLOOD GAS DETERMINATIONS
Continued

Mrs. T., a markedly obses woman in her early 40's, was admitted with weakness, somnolence, and ankle swelling of one year duration, all now progressively worse. Physical examination reveals her breathing was labored and shallow, her nail beds cyanotic. X-ray shows an enlarged heart and pulmonary arteries. Her blood gas values were:

PH	7.39
PO_2	40
PCO_2	64
HCO_3	37
BE	(+) 8

Interpretation:

Action Taken:

Review of the Cardiovascular System

True or False

______ The right and left sides of the heart constitute *two* separate pumping systems.

______ Blood flows from the superior and inferior vena cava into the *left* atrium.

______ The *tricuspid* valve is situated between the right atrium and the right ventricle.

______ Blood flows from the right ventricle to the pulmonary arteries.

______ The *mitral* valve prevents blood in the pulmonary arteries from flowing back to the right ventricle.

______ There are two pulmonary veins.

______ Blood flows from the left ventricle into the aorta.

Name the five structures of the heart and lungs that make up the pulmonary circulation.

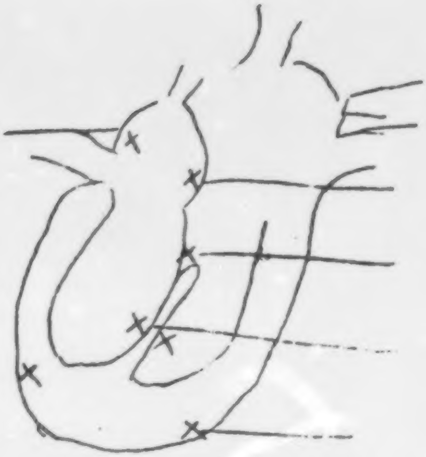
1.
2.
3.
4.
5.

Name the five structures that comprise the systemic circulation.

1.
2.
3.
4.
5.

What function do the four valves have as part of the complex pump system of the heart?

Trace the electrical impulse as it travels through the myocardium using numbers 1 - 5. Label the areas marked "x".



The ________________nerve carries sympathetic fibers to the heart while the _____________________nerve supplies parasympathetic fibers.

Stimulation of the sympathetic nerve has the following overall effect on the heart:

1.
2.
3.

Define cardiac output.

How much blood is pumped by the heart per minute?

List the parts that comprise the pulmonary system.

1.
2.
3.
4.
5.
6.

Exhange of gases occur in the ________________________.

Match the following arrythmias with their corresponding definition.

_____ Ventricular fibrillation

_____ Ventricular tachycardia

_____ Atrial standstill

_____ Paroxysmal tachycardia

_____ Heart block

_____ P.V.C.

A. An extremely fast atrial rhythm (150-300 per minute)

B. There is no stimulus, no response, and no contraction in the atria.

C. A ventricular rate of over 100 with pacemaking in the ventricles.

D. A conduction disturbance which is applied to various degrees, timing and rate of pathology.

F. A "death-dealing" arrythmia.

G. The S. A. node is replaced as a pacemaker by the cells in the ventricles.

Match the following patterns of respiration to their corresponding definition.

_____ cheyne stokes

_____ apnea

_____ atoxic breathing

_____ Kussmaul's breathing

_____ tachypnea

_____ hyperventilation

A. very rapid, possibly shallow

B. deep and rapid

C. absence of breathing

D. regularly alternating periods of rapid breathing and apnea.

E. deep breathing with long sighing exhalations characteristic of diabetic coma.

F. periods of apnea interspersed with rapid, shallow, irregular breathing.

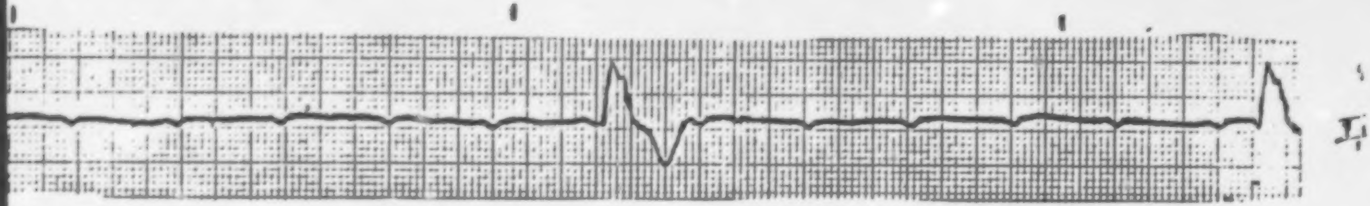
APPENDIX D

QUIZ ON ARRHYTHMIAS

Quiz

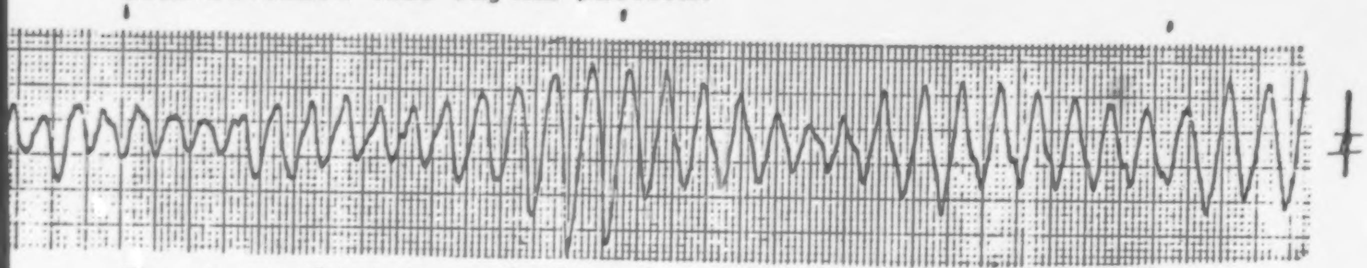
1. An ermergency rescue squad radioed to the Emergency Room to inform the staff that they were bringing to them a 45-year-old man who had suffered an electric shock from a live electrical wire. The patient was unresponsive, and cardiopulmonary resuscitation was being administered.

   Upon arrival, cardiopulmonary resuscitation was continued and cardiac monitoring was initiated. The nurse observed this rhythm.



   She told the Emergency Room physician that the monitor indicated the patient's heart rhythm was ____________ _________.

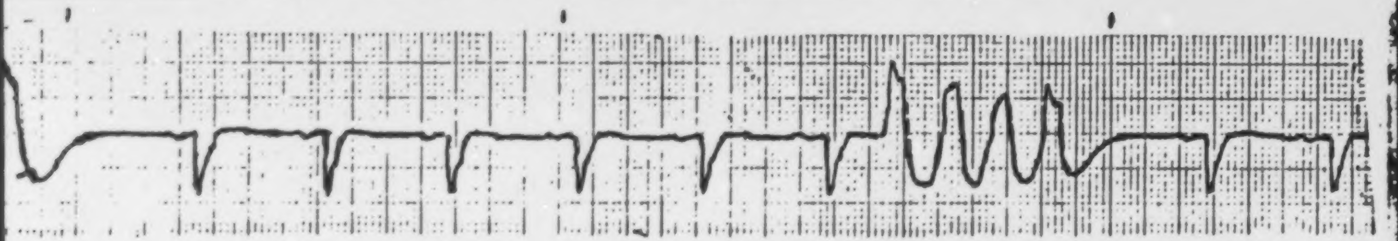
   The physician administered intracardiac adrenalin, and cardiac massage was continued. Constant observation of the monitor soon revealed this rhythm pattern:



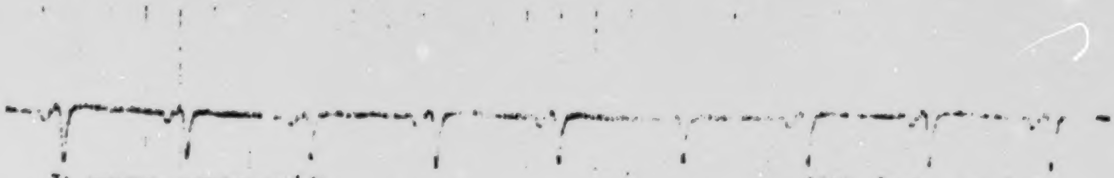
   The nurse clinician quickly related to the physician that the patient was now in _____________ ______________ and prepared the proper equipment to ____________________ the patient.

2. A middle-aged gentleman walked into the Emergency Room and presented himself to the nursing staff. He was clutching his chest and complained of the pain radiating into his neck and jaw. The nurse clinician observed the patient to be perspiring and breathing heavily. She was concerned because this patient was possibly suffering from some type of ____________________ problem.

She quickly put the patient to bed and placed him under ____________________ surveillance. Both pulse and rhythm pattern indicated that the heart rhythm was irregular.



She identified this rhythm to be ________________________, and she knew that the patient needed an antiarrhythmic drug such as ______________________. Therefore, she quickly notified the Emergency Room physician and obtained needed medication orders.



P wave present?________

QRS for every P?______

P-R interval__________

QRS interval__________

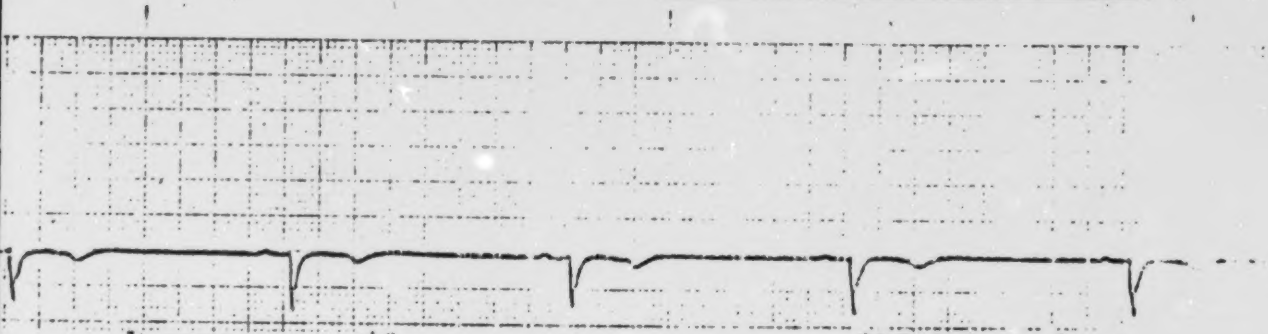
Rhythm regular?______

Heart rate:

Atrial_____

Ventricular______

Name the arrhythmia______________________________



P wave present?_______

QRS for every P?______

P-R interval__________

QRS interval__________

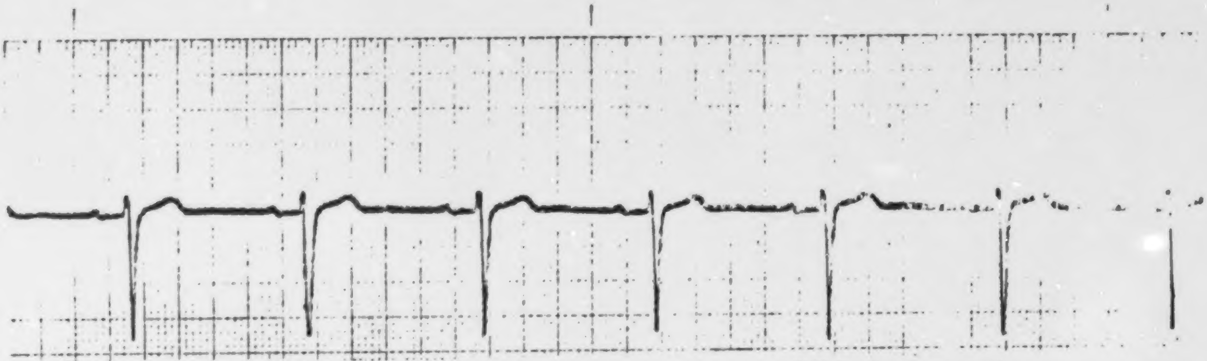
Rhythm regular?_______

Heart rate:

Atrial_______

Ventricular_______

Name the arrhythmia______________________________



P wave present?_______

QRS for every P?______

P-R interval__________

QRS interval__________

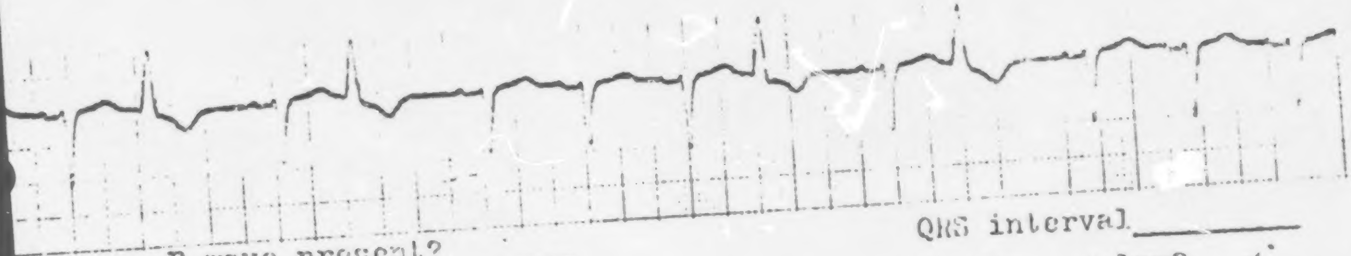
Rhythm regular?_______

Heart rate:

Atrial________

Ventricular________

Name the arrhythmia______________________________



P wave present?________

QRS for every P?_______

P-R interval___________

QRS interval__________

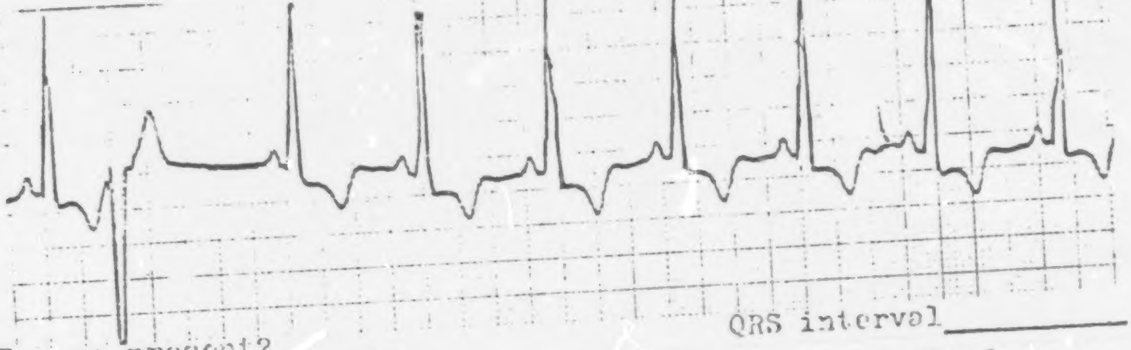
Rhythm regular?________

Heart rate:

Atrial_____

Ventricular______

Name the arrhythmia___________________________________



P wave present?________

QRS for every P?_______

P-R interval___________

QRS interval__________

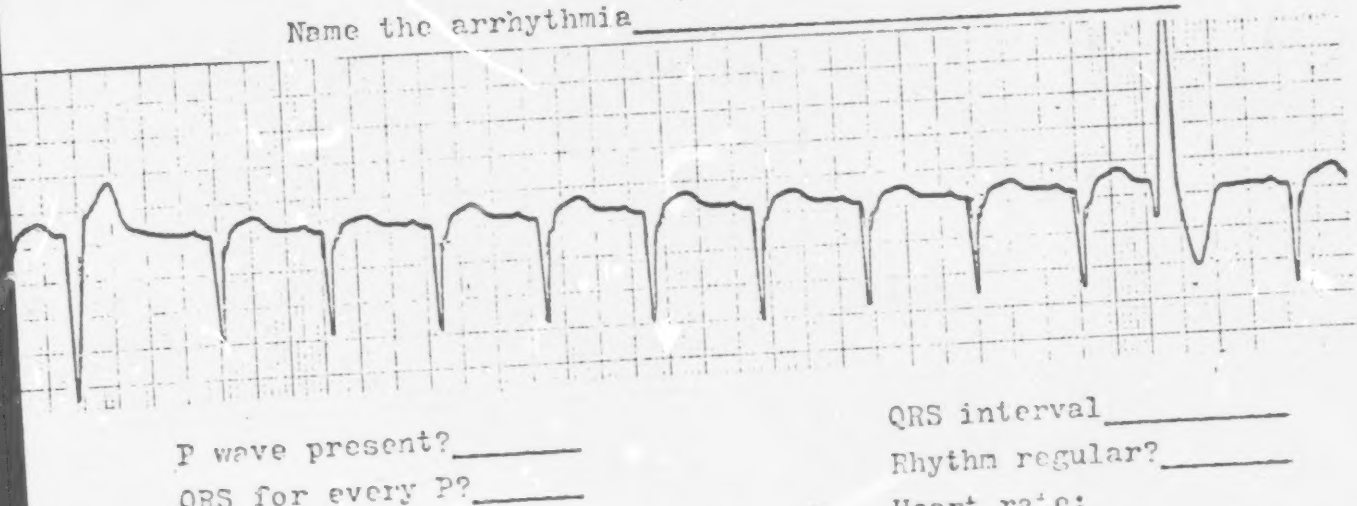
Rhythm regular?________

Heart rate:

Atrial________

Ventricular________

Name the arrhythmia___________________________________



P wave present?________

QRS for every P?_______

P-R interval___________

QRS interval__________

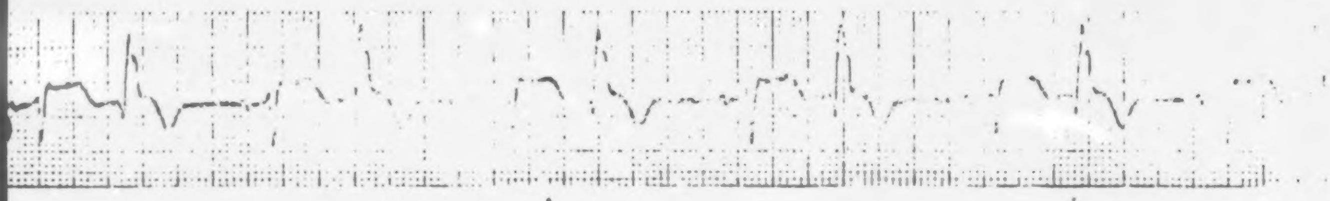
Rhythm regular?________

Heart rate:

Atrial________

Ventricular________

Name the arrhythmia___________________________________



P wave present?______

QRS for every P?______

P-R interval________

QRS interval________

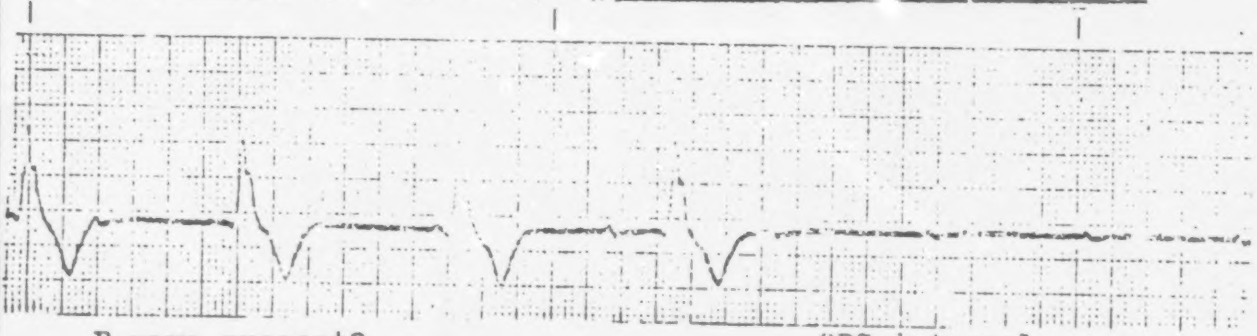
Rhythm regular?______

Heart rate:

Atrial____

Ventricular_____

Name the arrhythmia____________________



P wave present?______

QRS for every P?______

P-R interval________

QRS interval________

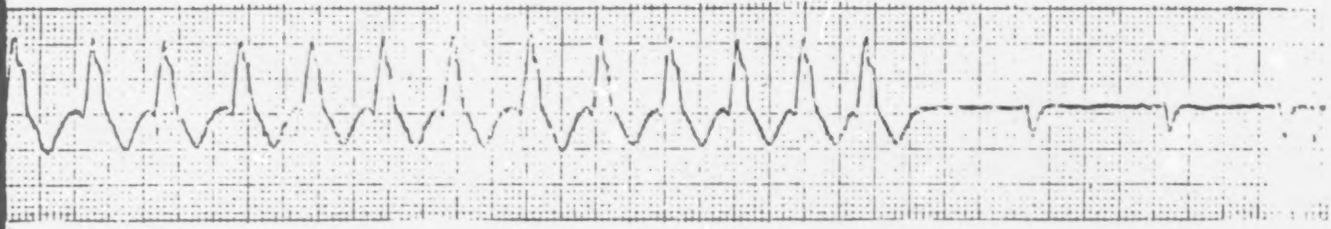
Rhythm regular?______

Heart rate:

Atrial______

Ventricular______

Name the arrhythmia____________________



P wave present?______

QRS for every P?______

P-R interval________

QRS interval________

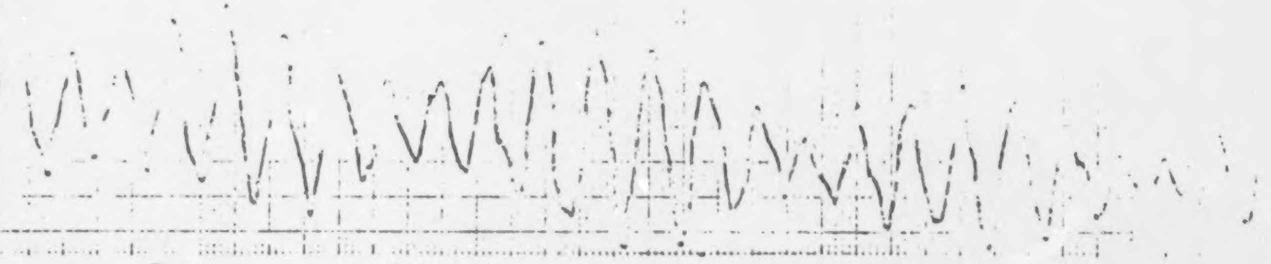
Rhythm regular?______

Heart rate:

Atrial______

Ventricular______

Name the arrhythmia____________________



P wave present?________

QRS for every P?________

P-R interval__________

QRS interval__________

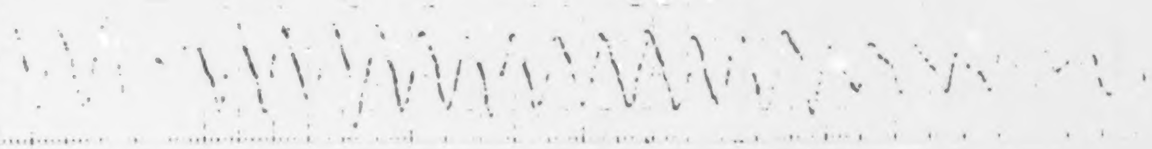
Rhythm regular?________

Heart rate:

Atrial____

Ventricular_____

Name the arrhythmia______________________________



P wave present?________

QRS for every P?________

P-R interval__________

QRS interval__________

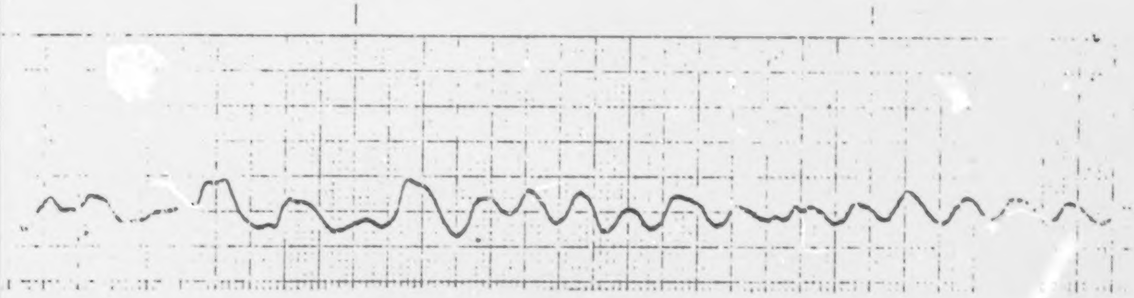
Rhythm regular?________

Heart rate:

Atrial________

Ventricular________

Name the arrhythmia______________________________



P wave present?________

QRS for every P?________

P-R interval__________

QRS interval__________

Rhythm regular?________

Heart rate:

Atrial________

Ventricular________

Name the arrhythmia

APPENDIX E

HANDOUT MATERIALS

THE ROLE OF THE TRAUMA NURSE
TERI ROMANO, R.M., B.S.

I. THE CHANGING ROLE OF THE NURSE

   A. In coronary care

   B. In trauma

      1. Growing public concern in the field of emergency care

      2. Illinois Statewide Trauma Program

   C. Specialization in Nursing

      1. Advancement from the "generalist-physician helper" of the past.

      2. Necessitates advance education

         a. Physiological approach to patient care

         b. Application of physiology to clinical situation

II. THE ROLE OF THE TRAUMA NURSE

   A. Goes beyond what is normally defined as "nursing care"

   B. In the initial emergency situation

      1. Evaluation of patient

      2. Formulation of diagnosis

      3. Decision of need for immediate independent action - use of clinical judgment

      4. Utilization of advanced skills.

   C. The nurse as the "triage officer"

      1. Determination of seriousness of injury or condition

      2. Evaluation and tentative diagnosis

      3. Screening and determination of destination - use of clinical judgment

D. In the observation period

1. Physiological approach

2. Awareness of possible complications or occult injuries

E. Clinical Evaluation

1. Assessment and emergency treatment of:

a. Adequacy of airway
b. Cardiac function
c. Bleeding
d. Open wounds or fractures

2. Priorities of care

a. Maintain life
b. Maintain function
c. Maintain appearance

3. Systemic evaluation

a. After emergency measures have been treated
b. Evaluation of total body systems for possible injury
c. Carried out in order of priority
d. Verbal history obtained simultaneously

4. Thoracic

a. Check for obvious or external injury
b. Listen for breath sounds
c. Palpate chest for fractures or defects
d. Palpate tracheal position

5. Head, neck and spinal cord injuries

a. Sand-bag patient (all head injuries are potential cord injuries)
b. Check and record level of consciousness at frequent intervals
c. Check for external or obvious injury
d. Have patient move all extremities
e. Evaluate PERL
f. Palpate skull and neck for deformities or hematomas
g. Evaluate motor and sensory function
h. Check ears and nose for CSF

6. Abdominal injuries
    a. Check for obvious or external injury
    b. Look for exit wounds
    c. Listen for bowel sounds
    d. Notice abdominal girth
    e. Palpate abdomen and flank for peritoneal signs
    f. Evaluate x-rays and lab results (Hct, WBC, amylase)

7. Facial and eye injuries
    a. Check for obvious or external injury
    b. Check eyes for hyphemas and movement
    c. Palpate bony structures for fractures (crepitus-deformity)
    d. Manipulate maxilla gently for fractures
    e. Check for malocclusion
    f. Evaluate neurologically

8. Extremity injuries
    a. Check for obvious or external injuries
    b. Palpate for all pulses
    c. Evaluate sensory and motor function
    d. Note color and temperature of extremities

NOTES:

PARENTERAL HYPERALIMENTATION

I. PHYSIOLOGY

A. Negative Nitrogen Balance occurs in clinical conditions such as:

Starvation
Malnutrition
Febrile Diseases
Burns
Trauma

1. "Flight and Fight" stress situations increase secretion of adrenal catecholamines (epinephrine, nor-epinephrine) which increases BMR and potassium excretion.

2. Epinephrine inhibits insulin release which results in diabetic-like condition.

3. Immobilization causes protein breakdown.

II. BIOCHEMISTRY AND PHARMACOLOGY

1. Provide adequate non-protein calories (glucose) for energy so amino acids (AA) can be completely used to establish a positive nitrogen balance for repair of tissues and promotion of growth.

2. 150 non-protein calories per Gram of nitrogen is optimal.

III. BASIC COMPOSITION OF ADULT HYPERALIMENTATION FORMULA

Agent	Concentration (per liter)
Dextrose	20%
Protein Hydrolysate	5%
Nitrogen	5-6 Gm.
Potassium Chloride	30-40 meq.
Sodium Chloride	40-50 meq.
Multivitamins	
Other Electrolytes (Ca, Mg, PO_4)	

IV. CLINICAL APPLICATIONS

1. In Patients Who Cannot Eat:

   Esophageal carcinoma
   Gastric carcinoma
   Obstructing peptic ulcer
   Patalytic ileus

2. In Patients Who Should Not Eat:

   Enterocutaneous fistulas
   Regional enteritis
   Granulomatous colitis
   Pancreatitis
   Largyngeal incompetence

3. In Patients Who Cannot Eat Enough:

   Multiple injuries
   Major full thickness burns
   Ulcerative colitis
   Short bowel syndrome
   Malabsorption syndrome
   Chronic vomiting

4. In Patients Who Will Not Eat Enough:

   Pre and Post-Operative geriatric patients
   Anorexia nervosa

5. In Patients with Miscellaneous Conditions:

   Intractable diarrhea
   Renal failure
   Hepatic disease
   Peritonitis

V. NURSING CARE AND IMPLICATIONS

A. Nursing Responsibilities - Maintain sterile technique during insertion

1. Catheter dressing change every 2-3 days - USE STERILE TECHNIQUE! Check around site daily for signs of infection.

2. Change IV tubing and millipore filter

3. Catheter should not be used to administer medications and withdraw blood.

4. Insure constant infusion rate! Too rapid administration leads to dehydration.

5. Urine glucose and specific gravity should be watched carefully and reported to M.D. if unusual. Regular insulin may be required.

6. Fluid balance data and body weight should be obtained daily.

7. Electrolytes are drawn daily until stable, then every other day.

8. Physical Therapy and psychological care are important and the nurse should provide support.

9. Watch for complications!

   a. Sudden pyrexia may indicate infection.

   b. Headache and nausea may indicate too rapid flow.

   c. Air emboli

   d. Phlebitis

   e. Thrombosis

   f. Dehydration

10. MAINTAIN STERILITY OF SOLUTION BY PRACTICING EXCELLENT STERILE AND NURSING TECHNIQUES WHEN CARING FOR PATIENTS ON HYPERALIMENTATION THERAPY.

MAGNITUDE OF HEMORRHAGE		CLINICAL FINDINGS	POSSIBLE ETIOLOGY	TREATMENT
Grade I	Minor blood loss (10-15%) 500-750 ml	Well compensated May have dizziness, tachycardia (100/min) B/P normal or slightly ↓	External Blood donation Laceration Internal Hematoma Hemothorax Extremity fracture	Control hemorrhage Infuse crystalloid if necessary
Grade II	Moderate blood loss (15-30%) 750-1500 ml	Partial compensation Cool sweaty thirst Tachycardia (110/min) Tachypnea (24/min) Decreased pulse pressure Slight hypotension (90-100 mm Hg)	Major laceration Subcapsular splenic rupture Fractured femur	Control hemorrhage Crystalloid and colloid infusion Oxygen administration Evaluate for obscure bleeding Usually need IV
Grade III	Major blood loss (30-45%) 1500-2250 ml	Decompensation Cold clammy pallor Tachycardia 120/min Hypotension 80/mm Hg Obliguria 30 cc/hr Metabolic acidosis	Peripheral vascular injury Stellate liver injury Pelvic fractures	Control hemorrhage Crystalloid & colloid blood transfusion Oxygen & bicarbonate infusion Physiologic monitorin Definitely IV's & usually blood
Grade IV	Catastrophic blood loss (45%) Over 2250 ml	Cyanosis Semiconscious Respiratory distress Profound hypotension Anuria, Metabolic acidosis Confused	Traumatic amputation Visceral arterial injury Multiple injuries	Control hemorrhage Oxygen, bicarbonate Blood colloid crystalloid Cardiac monitoring antibiotics

NURSES' PRIMER ON VENOUS PRESSURE

I. EXPLANATION OF VENOUS PRESSURE

The circulation of the body, as we all know, is divided into major compartments, the ARTERIES and the VEINS. These are connected at one end by the HEART, and at the other end by the CAPILLARY BED. The heart, which is the center of the circulation, pumps blood from the veins to the arteries (disregarding the circulation in the lungs which is not important here). The status of the circulation is commonly measured by the blood pressure and the pulse rate. The "blood pressure" as we know it, is the measurement of the pressure within the ARTERIES. The "pulse" is measurement of the function of the heart. Now, to these, we can add one further measurement; the venous pressure. This is a measurement of the pressure within the VEINS. Therefore, there are two "blood pressures", the arterial pressure, measured by a cuff around the arm, and the venous pressure, which, as we will see, is measured by a catheter in a large vein. The combination of both these measurements can tell us a lot more than either one alone.

II. CHARACTERISTICS OF THE VENOUS PRESSURE

The venous pressure differs in many ways from the arterial pressure. Some of the important differences are these:

1. The venous pressure is a much lower pressure than the arterial pressure. Whereas the arterial pressure is measured in millimeters of mercury, the venous pressure is much more delicate and must be measured in millimeters of water (which is 13.5 times lighter than mercury). The veins are really a reservior of blood, with a slow current, that the heart draws from to pump to the rest of the body through the arteries. The pressure in the reservoir is low, but as soon as the pump (the heart) picks up the blood and applies force to it, the pressure rises sharply as it does in the arteries.

2. The arterial pressure is pulsatile; the venous pressure is steady. The arterial pressure has a pulse which represents the pumping cycle of the heart. There is a systolic thrust and a diastolic relaxation phase. The venous pressure, on the other hand is steady as is the pressure in any reservoir. However, you will notice in measuring the venous pressure that it does rise and fall. This is not due to the pulse, but rather to respiration. The lungs and chest act as bellows and as the chest expands, it "sucks" blood toward the heart, and the venous pressure momentarily falls. A forceful expiration or cough will drive blood out of the chest and cause a pressure rise. Although

these changes during respiration do aid the movement of blood in the veins, they are not essential (as the heart is) and if the patient holds his breath, it will be seen that the venous pressure is indeed steady, and the blood is also steadily flowing toward the heart.

3. The venous pressure must be measured in a "central vein", whereas the arterial pressure can be taken from a peripheral artery. A very accurate arterial pressure can be taken by placing a cuff around the arm or really around the brachial artery. The VEINS of the arm and leg, however, have valves and these tend to "break up" the venous blood into compartments and make the pressure vary in different parts of the vein. A true venous pressure is defined as the pressure in a "central vein", either the superior or inferior vena cava inside the chest; these veins have no valves and measurement here overcomes the discrepencies introduced by these valves. These veins are the "central reservoir".

4. The venous pressure depends on the relative position of the patient and the manometer. The arterial pressure manometer can be "anywhere". When taking the arterial pressure, the mercury manometer can be placed on the floor, on the bedside stand, or on the chandelier--the pressure recording will be the same. But, because the venous pressure is so delicate, a wide difference in readings would be obtained in these positions. Therefore, the venous pressure manometer must always be at the same position relative to the patient. For simplicity, it is arbitrarily decided that the patient should be flat and the zero-line of the manometer should be leveled at the anterior auxilary line of the patient. Be sure to keep this in mind when taking the venous pressure.

II. USEFULNESS OF THE VENOUS PRESSURE

There are many commonly encountered clinical conditions in which the venous pressure can be very helpful. Remembering that the veins are a reservoir, most of these conditions can be clearly understood.

HEMORRHAGE - When blood is lost, the level in the venous reservoir falls. A low venous pressure can indicate this before any other measurement. Replacing the volume of blood lost can be better estimated by watching the venous pressure. This is particularly useful to the surgeon who is often dealing with "massive volume replacement". When the venous pressure is back to normal, the transfusion of blood can be slowed or discontinued.

CARDIAC FAILURE - When the "pump" fails to move blood along, there is a back-up in the reservoir, and the venous pressure rises. This can occur even before pulmonary edema, low arterial blood pressure, or the other classical signs of heart failure are present.

PERICARDIAL TAMPONADE - When blood or other material accumulates in the paricardial sac, the heart is compressed and cannot fill properly. This is also a type of heart failure. THE RISE IN VENOUS PRESSURE HAS BEEN SHOWN REPEATEDLY TO BE THE EARLIEST SIGN OF THIS CONDITION. One peculiarity of this condition is that the venous pressure can remain normal until the last minute, and then rise suddenly and sharply. Thus, when tamponade is suspected, the CVP must be measured as often as every 5 minutes.

VASOCONSTRICTION - The CVP is increased because the relative volume of the vascular bed is reduced - so that the same amount of blood occupies a smaller space.

INCREASED BLOOD VOLUME - The CVP is high when there is hypervolemia because there is more blood in the vascular bed.
DECREASED BLOOD VOLUME - The CVP is low when there is hypervolemia due to less blood in the vascular bed. This is a good indication for the amount of fluids in intravenous therapy.

LAB STUDIES - When drawing blood for lab studies, discard the first 10 cc of blood because of the dilution of blood with the intravenous solution used.

INJECTION - of large amounts of drugs that are irratating to the smaller veins. Frequently, a multi-purpose catheter is used with an electrode in the tip.

PULMONARY EMBOLISM - the VP rises

CHEST INJURIES

DIFFERENTIAL DIAGNOSIS OF SHOCK

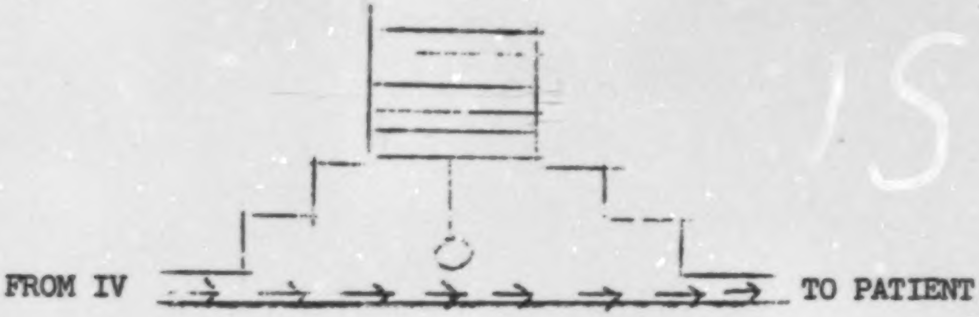
IV. TECHNIQUE OF MEASUREMENT OF THE VENOUS PRESSURE

There is no better way to learn the accurate measuring of the venous pressure than to do it repeatedly. First, the catheter must be accurately placed so that there is a free flow of blood and the saline in the manameter falls freely. This is the physician's job. The nurse should be able to carry on from there and measure the VP just as she would measure the arterial (cuff) pressure.

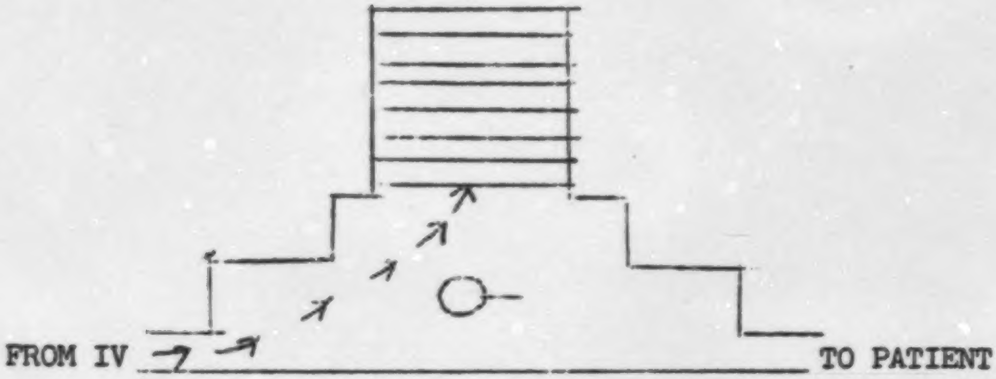
POINTS TO KEEP IN MIND ARE THESE:

1. Patient should be flat in bed.
    a. if must in a semi-Fowler's or Fowler's position, she must note the exact position used to be the same each time. If a high, low bed is in use, it must be noted and taken each time in the same position.
    b. if the patient is attached to a respirator - must be detached for the few seconds of reading the CVP as it will cause a higher reading.
2. Flush the catheter before taking the pressure by opening the IV to full flow; be sure no blood is in the tubing.
3. Insert a 3-way stopcock in the line from the IV to the patient and attach manometer to the stopcock.
    a. male end of the stopcock is inserted into the hub of the patient's catheter and the female end on the stopcock is attached to the IV tubing.
    b. Sterile technique is required - gloves are not mandatory - but the ends of the stopcock and the manometer should remain sterile.
4. Place at level of the Rt. atrium (approximately the midaxillary line).
    a. If not permanently fixed at this level, some mark should be made on the patient so that the level will remain same for each venous pressure determination.
    b. If permanently fixed, use clear scotch tape to hold the manometer to IV pole to see through for reading.

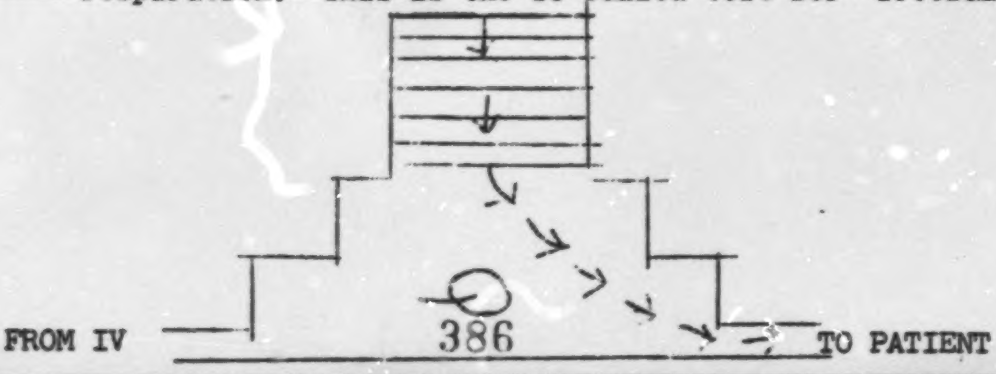
5. First turn the handle of the stopcock so that the fluid is allowed to flow through to the patient.


FROM IV
TO PATIENT

6. Next turn the handle of the stopcock so that fluid flows up the manometer to the top from the IV bottle. Be sure air pockets are flushed out.


FROM IV
TO PATIENT

7. Finally turn the stopcock so that the fluid goes from the manometer to the patient. The fluid should drop promptly and then rise and fall with the respiration. This is the so-called test for "freefall".


FROM IV
TO PATIENT

8. Venous pressure is recorded at the lowest point to which the fluid meniscus falls.

9. The stopcock is then turned appropriately to continue the IV drip and the rate is adjusted as desired.

V. IMPROPER FUNCTION

1. If you do not see the slight fluctuation relative to respiration, the catheter may be out of place. Check to see if fluctuations are in accordance to heart beat. Notify doctor and have him come to adjust the placement.

2. If solution keeping the vein open does not go through, reading will be off due to blockage.

   a. Heparin added to IV solution control blockage due to clotting.

   b. Tubing may not be in lumen of vein - has infiltrated - area puffy, red, warm, painful. Notify doctor immediately.

   c. Tubing may be obstructed if it rests too heavily on inside wall. Solution may leak around site where the catheter is inserted. The pressure will be zero or low. In this case, the doctor will gently move the catheter around to provide a free flow. Changing the position of the extremity may help.

3. Under NO condition should fluid EVER be forced into a venous catheter because of the possibility of forcing a large clot into the blood producing an embolus.

VI. CONSIDERATIONS

1. Remember all catheters inserted into patients for monitoring will cause some amount of discomfort and apprehension. To help this the nurse can:

   a. Position the patient in the extremity where catheter is inserted comfortably.

   b. Be sure no tension is placed on catheter to cause discomfort or displacement.

   c. Reassure patient about the treatment.

2. In order to determine which factor is causing the elevated or lowered pressure, clinical evaluation is necessary. In addition, parameters such as blood gases, vital signs, EKG monitoring, and hematocrit must be used.

CARDIAC ARREST

	SODIUM BICARBONATE	ADRENALIN	ISUPREL	CALCIUM CHLORIDE	ZYLOCAINE
INDICATED	Acidosis	Asystole	Asystole	Asystole	Fibrillation
Action and Uses	Neutralizes the free flowing lactic acid to stabilize the acid base balance	Stimulates the myocardium to ↑ the force of contractions → ↑ cardiac output	Accelerates the heart ↑ the vent. rate in patients with heart block	Used when epinephrine has failed to improve a weak or ineffective myocardial contraction	Anesthetic - stabilizes the cell membrane of the heart reducing cardiac excitability
Dispensed in tackle box	50 meq = 50 cc solution 1 meq = 1 cc	1 mg (1:1000 sol) = 1 cc	1 mg in 5 cc	1 Gm in 10 cc	20 mg/cc in 20 cc Multi-dose vial
Usual Adult Dose (may vary) and frequency of administration	50 meq - q̄ 5-10 min. in 50 cc syringe IV push	0.5 - 1 ml. diluted in 4 cc of sodium chloride q̄ 3-5 min. IV push or intra-cardiac	1cc (0.2 mg.) diluted in 10 cc of sodium chloride IV push Inter-cardiac 0.2 mg. undiluted use heart needle or disp. spinal needle	1 Gm (10 cc) may be given at 3-5 min. intervals	50-100 mgm (15 - 25 cc) may be given initially

NURSE'S EVALUATION AND EXAMINATION
OF A CRITICALLY INJURED PATIENT

1. Patient's history, if able to obtain

Time of injury - very important
Mechanism of injury
Specific complaints presently displayed
Past illnesses
Allergies

PHYSICAL EXAM

1. Level of consciousness - most important sign
2. Pupils - check for size, equality, reaction to light
3. Head - feel for lacerations, check for blood or cerebral spinal fluid leaking from nose or ears
4. Symmetry of face - feel face with hands, look for point tenderness which will indicate possible fractures, face should look the same on both sides.
5. Visual acuity - check for diplopia, blurred vision
6. Mouth - check tongue for lacerations, check for maloccusion by having patient bite down
7. Carotid pulses - check for quality and equality of pulses on both sides, look for presence of hematomas
8. Trachea - feel trachea checking to see if it is in midline position
9. Cervical Spine - feel area for unusual projections, neck crepitus (subcutaneous air indicating possible tracheal injury or pneumothorax)
10. Symmetry of chest expansion
11. Cyanosis - lips, nailbeds
12. Sucking chest wounds - listen to breath sounds, percuss chest for dullness
13. Sternum - press on sternum, checking for fractured ribs. If there is a rib fractured, patient will tell you where it hurts

14. Abdomen - contusions, abrasions. Gross distention. If grossly distended within 20 minutes of injury, it is usually due to hemorrhage or peritonitis. If distention appears later (12 hours), it is usually due to an ileus. Check for tendérness, guarding, voluntary, non-voluntary rebound tenderness. All 4 quadrants should be palpated.

15. Pelvic injury - push pelvic wings together - pull apart. Presence of pain will usually indicate fracture.

16. Foley catheter - check color, concentration of urine. If blood is present from uretheral meatus, suspect ruptured meatus.

17. Rectal exam (per Doctor) observe for pain and presence of blood.

18. Extremities - ask patient to pick up all extremities. If patient can perform this, usually indicates no fractures or spinal cord injury. Check temperature, color, pulses of all extremities

19. Vertebral column - must check patient's back for contusions, abrasions. Feel spinal column for tenderness or deformity

The above observations should be reported to the doctor and recorded in an orderly fashion.

Team concept to be implemented in the care of trauma patients.

1. Primary doctor - should be a general surgeon in charge of the team, performs the initial examination. Calls consults as he deems necessary. Responsible for coordinating all patient's activities.

2. Nurses' responsibility - performs initial examination in absence of doctor. Assists doctor with all emergency procedures, records all pertinent information, remains with patient until transferred to surgery or one of the nursing units.

CRITICAL INJURY INDEX

SYSTEM:		ABNORMAL	SEVERELY ABNORMAL
1.	Airway	obstructed, partially by foreign object	obstructed, completely by injury
2.	Breathing	shallow or uneven	labored or undetectible
3.	Respirations	24-36 per minute	below 16, above 40 per minute
4.	Bleeding	minor, controllable by external pressure	massive, uncontrollable by simple pressure
5.	Pulse	90-120 per minute	irregular or none, below 60 or above 120 per minute
6.	Wounds	superficial multiple lacerations, or abrasions	major, deep, or with loss of body parts
7.	Fractures	deformed extremity, stable, closed	bone exposed, unstable, open
8.	Extremity sensation	any change in feeling, tingling, burning	loss of feeling (anesthetic)
9.	Extremity movement	any limitation of voluntary motion, or weakness	loss of functions (paralyzed)
10.	Mental state	excited, intoxicated	depressed, unconscious (coma)

Identify the most severe category and report in the order as listed (that is airway - obstructed with vomit, breathing - uneven, mental state - confused, etc.) Identify bleeding location, seriousness, and controllable; fracture sites, and amputation or near amputations.

TRAUMA NURSING

Spinal Cord Injury

I. Spinal Cord Injury - 85% male
15% female
Usual age group 18-25

- A. Spinal cord begins at foramen magnum - extends to L_{1+2}.
- B. Spinal cord injury - injuries to the cord are classified according to spinal cord level, not bony or vertebral level.
    1. inguinal line L_1
    2. umbilicus T_{10}
    3. nipple line T_5
    4. shoulder C_{4-5}
- C. Frequently associated with head injury - therefore any patient admitted with multiple injuries or head injury must be treated as a spinal-cord injured patient until proven otherwise.
- D. According to Dr. P. Bucy --
    1. 80% of spinal cord injury is caused by contusion of the spinal cord.
    2. If complete flaccid paralysis persists longer than 4-24 hours after injury with no sensation present, assume injury may be permanent.
    3. Most frequent sites of injury
        - a. C_{5-6}
        - b. T_{12}-L_1
        - c. Injury above C_3 will usually cause death due to paralysis of the diaphragm. (Innervated by C_3-C_4-C_5 - mostly by C_4).
- E. Type of Injury
    1. Flexion - blow across the shoulders or back of head; fall on buttocks - (Thoracic or lumbar injury)
    2. Flexion with rotation
    3. Vertical Compression - blow on top of head; fall from a high place.
    4. Extension - fall downstairs, forehead is struck and head jerked backwards.
    5. Direct - blow on the back (direct missile)
    6. Pathological fracture - osteoporosis in the elderly - primary or secondary tumors.

Spinal Cord Injury
Continued

F. Signs and Symptoms of spinal cord compression.

1. Loss of motor function below the level of the lesion.
2. Sensory loss below the level of the lesion.
3. May have respiratory difficulty.
4. May have pain at the level of the lesion.
5. Loss of sphincter (bowel and bladder) control.
6. May be associated with multiple trauma or head trauma.

G. Treatment

1. Aim of acute care
   - a. Proper transport
   - b. Maintenance of alignment
   - c. Prevention of spinal cord damage
2. Cervical Injury
   - a. Stablization of neck - halter or skeletal traction
   - b. Insertion of crutchfield tongs and application of weights for stablization
   - c. Fusion (anterior or posterior) - usually after acute stage
3. Thoracic Lumbar Injury
   - a. Immobilization
   - b. May be hperextended (roll under back) if ordered by the physician
4. Indications for Surgery
   - a. Neuro deficit - (may be immediate)
   - b. CSF block
   - c. bullet
   - d. Bony fragments in cord
   - e. Persistant dislocation

   Usually not until acute stage over

H. Effects of Spinal Cord Injury
1. Paraplegia - usually involves lower extremities
2. Quadraplegia - usually involves all 4 extremities

I. Types of Injury
1. Concussion
   - a. With or without vertebral damage
   - b. No gross lesions demonstrable
   - c. Paresis or paralysis - transient
   - d. Complete recovery within minutes or hours
2. Contusion (may be equivalent to "severed cord")
   - a. Hemorrhage and edema of cord
   - b. Variable degree of paresis, spasticity, sensory changes and sphincter involvement

- 3. Transection
  - a. Gross interruption of continuity of cord. (Pathways may be severed from pressure, blood, edema).
  - b. Loss of motor function below the level of the lesion.
  - c. Loss of sensation below the level of the lesion.
  - d. Loss of sphincter control.
  - e. Complete areflexia.
- 4. Spinal Shock
  - a. Interruption of functions of the spinal cord - duration depends upon degree of injury.
  - b. Unaware of amount of damage until spinal shock passes.

J. Other effects of Spinal Cord Injury

- 1. Parasympathetic nervous system
  - a. Loss of sphincter control
  - b. Peristolis stops
  - c. Flaccidity of muscles
  - d. Loss of sensation
- 2. Sympathetic nervous system
  - a. Decreased control circulation labile BP - bradycardia
  - b. Decreased temperature
  - c. No sweating below level of lesion
- 3. Respiratory distress
  - a. If cervical injury - no intercostal (chest) muscle innervation - will breathe abdominally
  - b. If C_{3-4-5} may have decreased innervation to diaphragm
- 4. Ineffective Cough
  - a. Coughing is forceful expiration using abdominal muscles, to drive diaphragm up
  - b. May need abdominal support (manually) to assist with cough.

II. Nursing Management

A. Proper handling and transport absolute necessity. Patients should be placed on board or flat surfaced stretcher.

B. Patients should always be handled as a "unit" - one piece - maintain alignment.

C. Insure adequate ventilation

1. Evaluate ventilatory status
2. Blood gases as ordered
3. Ventilatory assistance when indicated
4. Intubation when necessary

D. Observe and record neurological status

1. Evaluate level of consciousness, pupil check, movement of extremities
2. Complete neuro check necessary as may have other injuries
3. Record accurately as the patient may require surgical intervention if rapid deterioration
4. Guideline for testing movement
    a. C_{5-6} can flex arms, but not extend
    b. C_{6-7} can flex and extend arms but no finger movement

E. Monitor vital signs

1. Many patients will have decreased BP, decreased P and decreased R
2. Any dramatic change in vital signs may indicate shock, hemorrhage, increased ICP, etc.

F. Immobilization

1. Use of turning frames at beds
    a. Stryker wedge - (best)
    b. Circo electric bed
    c. Egerton
2. If not on turning bed, specific turning instructions necessary from physician
3. Patients usually not turned for first 8-12 hours, then turned every 2 hours

G. Control of Emesis

1. If patients start to vomit, do not turn the head. Use wall suction
2. Physician may insert sump or nasograstic tube

H. Control of Pain

1. Usually mild
2. Usually controlled with mild analgesic - usually with codeine

I. Medications usually used

1. Mannitol 1000 cc 10% over 6 hours
2. Decadron 10 mg. IV push then 3 mg. every 6 hours, then decreasing dose (Observe for gastric bleeding)

J. Passive Range of Motion

1. Usually ordered 2nd day
2. Confer with physician if not ordered

K. Good Skin Care

1. No sensation - skin care given after each turn
2. Necessary especially over bony preminences

L. Prevention of foot drop

1. Use of Spenco boots
2. Must be removed periodically as heels will break down

M. Observe kidney function

1. Decrease central circulation; therefore, decrease kidney function
2. Output should be at least 30 cc/hour

N. Emotional Care

1. Usually males (85%) age 18-25
2. Hair shaved if cervical injury with crutchfield tongs
3. Patients usually extremely anxious, and in "shock" and denial upon admission
4. All procedures must be explained
5. After several days post injury, many patients become hostile and depressed
6. Most patients undergo "anxious" period after transfer out of ICU

TRAUMA NURSING

EXAMINATION AND INTERPRETATION OF NEUROLOGICAL SIGNS AND SYMPTOMS

By

Stella Jensen, BSN

I. Essential Aspects to Consider in the Initial Nursing Assessment of a Neuro Patient.

Objective: To establish a baseline for future comparison.

1. Level of Consciousness
    - a. Orientation to name, time, place.
    - b. Assess if: awake, alert, lethargic, stuporous, comatose or semi-comatose.
    - c. If level of consciousness is depressed, does he respond to name calling? Pain? Loud noise?
2. General Behavior
    - a. Is he cooperative, friendly, frightened, tense, angry, depressed, euphoric.
    - b. Awareness of neuro problem; reaction to these problems.
    - c. How does he react to his own family, the hospital environment and personnel.
    - d. Does he have eccentricities in dress, manner, or gesture.
3. Speech and Language
    - a. Can he understand and communicate in spoken and written language.
    - b. Does he speak English.
    - c. Is speech spontaneous, fluent, slurred, or slow.

4. Vital Signs

   T.P.R.

5. Check admission Neuro Signs:

   a. Level of consciousness - orientation to name, time, place.

   b. Pupillary signs - check for:

      1. size
      2. equality
      3. reaction to light

   c. Motor and sensory function:

      If patient is alert: ask him to move all four extremities and test for strength of extremities by checking hand grips. On lower extremities, test for dorsiflexion. Check sensory function on all four extremities.

      If level of consciousness is depressed; watch for spontaneous movement of extremities. When checking sensory function, use pin or pinch, being careful not to cause hematoma, and watch for withdrawal of extremity and/or facial grimace.

   d. Vital signs.

   e. Signs of cranial nerve involvement.

      Ex. 3rd nerve - ptosis
      7th nerve - facial palsy

      Purposes for checking neuro signs:

      to determine:

      1. Presence or absence of nervous system malfunction.

      2. The location, type, and extent of nervous system lesion.

      3. In more acute cases to provide an hour by hour record of patient's neurological status and be forewarned of development of increased intracranial pressure.

f. Signs of increasing intracranial pressure.

An alert nurse who knows what symptoms to look out for may mean saving the patient's life and, most of all, saving his mental faculties. It's easy to look for signs of increased intracranial pressure, but the key is to look for signs of developing I.C.P.; it doesn't make sense to do something about it once it's too late and structural damage is irrsversible.

Early signs:

1. Headache, nausea, vomiting, restlessness - due to stimulation or distortion of sensory nerve fibers in walls of vessels or meninges in the brain.

2. Increasing hemiparesis - tested by hand grips and drifting of elevated arms. On lower extremities test for dorsiflexion.

   Implication - possibility of worsening lesion on side of brain opposite from affected side.

3. Unequal pupils - sign of focal change. Marked enlargement of one pupil may be due to bruising or bleeding within the orbit, in the absence of brain damage.

   Marked dilation of one pupil and constriction of the other - may be due to uncalherniation, resulting in compression of the third nerve, manifested by ptosis.

4. Disorientation

Signs of further worsening:

1. Responsiveness - clearly deteriorates. For example; a disoriented, combative patient who gradually becomes "peaceful" and difficult to awaken. This alone is sufficient reason to call for prompt attention.

   For this reason, there is danger in the use of morphine and barbiturates for agitated patients as a diagnostic dilemma may result.

Implication: In head-injured patients an enlarging hematoma may be causing compression on a large area of the brain and displacing midline structures.

2. Vital signs:

   Pulse rate - slows due to increasing intracranial pressure (50 or ↓).

   Respiration - Cheyne Stokes respiration may be manifested. Ultimately the system fails and breathing ceases. This occurs last because the medulla is more resistant to anoxia than other parts of brain.

   B.P. - increases.

   Remember: ↑ BP, ↓ P, are extremely important warning signs and are the opposite of those customarily anticipated in shock.

3. Changes in focal motor ability - if manifested, is usually less striking than general changes in responsiveness and in P. and B.P.; nevertheless, they may be the first signs of a definite worsening of the patient, or may represent the first evidence of a new intracranial insult in a patient who was formerly quite alert.

4. Changes in response to painful stimuli:

   For example: painful stimuli not previously causing withdrawal, now causes legs to thrust in extension towards the stimuli. It implies that the cerebral hemisphere which had already lost ability to control body movement has finally lost ability to inhibit these primitive reflexes which have gained independent activity due to compression.

5. Changes in levels of consciousness, from alert to lethargic to stuporous, etc.

   Late, late signs:

   ↑ BP, ↓ P

   Bilaterally dilated pupils.
   Coma or clearly deteriorating level of consciousness.

Causes of Increased Intracranial Pressure

1. Brain tumor growing above the tentorium develops slowly.
2. Head injury - may develop rapidly.
3. Inflammatory disease - e.g., encephalitis, meningitis.
4. Edema of the brain.

   Ex.: acute nephritis
   arteriolar spasm
   malignant hypertension
5. Blockage in normal course of cerebrospinal fluid circulation.
6. Brain abscess.
7. As a complication of brain surgery.

Nursing Intervention

1. Do not restrain restless patients.
   Avoid shivering and nasal suctioning.

   All these may increase agitation and rise in BP
2. Elevate head of bed - assists in venous return.
3. Know when to call the doctor.
4. Watch trend in vital signs.
5. Limit patient's activity.

Medical Management

1. Intravenous urea
2. Intravenous mannitol

   Both produce a rapid shrinkage in the brain due to great outpouring of urine but may cause acute dehydration.
3. Decadron, prednisone

Surgical Management

Sub-temporal decompression.

APPENDIX F

INSTRUCTOR EVALUATION FORM

TRAUMA NURSING

Instructor Evaluation

Date: ______________________

Topic(s): ____

____

Speaker: ______________________

Please rate the questions on a 1 - 6 scale, 6 being the highest.

A. Preparation

1. The instructor seemed knowledgeable on the material he/she presented. 1 2 3 4 5 6

2. The preparation was geared for the group. 1 2 3 4 5 6

B. Conduct

1. The content was presented clearly. 1 2 3 4 5 6

2. The ideas were well organized. 1 2 3 4 5 6

3. The use of audio-visual aids, handouts, etc. was beneficial. 1 2 3 4 5 6

4. The instructor was open to suggestions, comments, and questions. 1 2 3 4 5 6

C. Content

1. The content was pertinent to the objectives of the course. 1 2 3 4 5 6

2. You will be able to make practical use of the subject content on the job. 1 2 3 4 5 6

For those you rated 1 or 6, please make further comments on your rating.

____

____

____

Other comments: ______________________________________

____

____

APPENDIX G

COURSE EVALUATION FORM

TRAUMA NURSING

FLORIDA REGIONAL MEDICAL PROJECT #318

EVALUATION FORM

Course # ____

In the lecture and discussion portion of the course, check below if:

1. Too little time was spent.
2. Time spent was adequate.
3. Too much time was spent in that specific area.

		1	2	3
1.	The Trauma System Concept	___	___	___
2.	Review of Cardiovascular System and Respiratory System	___	___	___
3.	Recognition and Management of Shock	___	___	___
4.	Volume Replacement			
	A. I.V. Solutions	___	___	___
	B. Blood Products	___	___	___
5.	Preparation and Administration of Drugs Used as I.V. Additions	___	___	___
6.	Biochemical Monitoring - C.V.P., P.A.P., P.W.P.	___	___	___
7.	Drug Intervention in Shock	___	___	___
8.	Fluids and Electrolytes	___	___	___
9.	Hyperalimentation Techniques	___	___	___
10.	Blood Gases	___	___	___
11.	Cardiopulmonary Resuscitation			
	A. Lecture	___	___	___
	B. Demonstration	___	___	___
	C. Practice Session	___	___	___

	1	2	3
12. Mock Resuscitation	___	___	___
13. EKG Monitoring and Lethal Arrythmias	___	___	___
14. Assessment and Therapy of the Critically Ill or Injured	___	___	___
15. Crisis Intervention	___	___	___
16. Abdominal Injuries	___	___	___
17. Auscultation	___	___	___
18. Chest Trauma	___	___	___
19. Genito-Urinary Injuries	___	___	___
20. Head and Spinal Injuries	___	___	___
21. Neurological Emergencies	___	___	___
22. Eye Injuries	___	___	___
23. Facial - Hand Injuries	___	___	___
24. Musculo - Skeletal Injuries	___	___	___
25. Radiology in Acute Trauma	___	___	___
26. Cardiac Emergencies	___	___	___
27. Intubation Procedure			
A. Lecture	___	___	___
B. Demonstration and Practice Session	___	___	___
28. Poisoning	___	___	___
29. Burns	___	___	___
30. Pediatric Emergencies	___	___	___
31. Maternal Emergencies	___	___	___
32. Acute Drug Overdose	___	___	___
33. Psychiatric Emergencies	___	___	___
34. Legal Aspects	___	___	___
35. Child Abuse	___	___	___

Check below the teaching methods you felt most valuable or least valuable.

	Of Little Value	Valuable	Very Valuable
A. Doctors' Lectures			
B. Nurses' Lectures or Discussions (List specific topic)			

	Of Little Value	Valuable	Very Valuable
C. Other Lectures or Discussions (List specific topic)			

D. Comments or Suggestions

	Of Little Value	Valuable	Very Valuable
E. Movies:			
Lillihei on Shock			
Decisions in Critical Care			
Prescription for Life			
A Life on the Line			
Acute Drug Overdose			
Hyperalimentation Techniques			
Pulmonary Complications in Shock			
F. Folder Containing Schedules and Hand-outs			
G. Work Sheets			
H. Pre-test			
Quiz			
Post-test			

Evaluation of Clinical Experience

(Includes demonstrations - mock or actual participation)

1. Of no value
2. Valuable
3. Very Valuable

	1	2	3
1. Participation in cardiopulmonary resuscitation			
A. Adult	___	___	___
B. Pediatric	___	___	___
2. Defibrillation	___	___	___
3. Intubation	___	___	___
4. Set up C.V.P. monitoring equipment	___	___	___

Evaluation of Clinical Experience (Con't.)

		1	2	3
5.	Identify normal EKG patterns	___	___	___
6.	Identify lethal arryhthmia	___	___	___
7.	Interpret blood gases	___	___	___
8.	Auscultation			
	A. Heart	___	___	___
	B. Chest	___	___	___
	C. Abdomen	___	___	___
9.	Care of chest tubes	___	___	___
10.	Use of Sengstaken-Blakemore tube	___	___	___
11.	Use of rotating tourniquets	___	___	___
12.	Application of G-suit	___	___	___
13.	Function as Triage Nurse	___	___	___

Do you feel that this training will improve your effectiveness in your own trauma unit? If so, how?

____

____

____

____

What are your expectations of a trauma nurse?

____

____

____

____

____

How do you hope to meet these expectations?

How do you plan to best utilize and build upon the training you have received?

Will you take an active part in the teaching programs for trauma (Continuing Education) at your hospital? If so, in what way?

Please briefly evaluate the course, giving any criticisms, comments, or suggestions.

How did you learn about the course?

____

____

What problems did you encounter in registering for the course?

____

____

____

What recommendations do you have regarding improving the publicity for the course?

____

____

____

____

Evaluation of Teaching Facility

	Yes	No
1. Did the facility provide adequate classroom space?	___	___
2. Did the facility provide necessary audio-visual equipment?	___	___
3. Did the facility provide those clinical experiences expected in order to meet the course objectives?	___	___